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ORIGINAL ARTICLES.

PNEUMONIA IN CHILDREN.[1]

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THE subject of pneumonia in children is too large to be discussed in its entirety on this occasion. I must confine myself to a review merely, giving particular attention to the characteristics seen in subjects under five years of age, and especially of those of two years and less. As the child grows older the unusual characteristics of the affection disappear more and more, and the symptoms finally become identical with those seen in adults.

The element of age is a very important factor in producing one or the other of the two forms of pneumonia. It would seem now generally admitted that croupous pneumonia may attack subjects of any age, although it is distinctly less frequent in children under one year old and more frequent after five years. Bronchopneumonia, on the other hand, is by far the commoner and more fatal form in children of less than five years, and especially in infants. At the same time no one is justified in pronouncing a pneumonia to be of the one form or of the other upon the age-factor alone.

The cough of pneumonia is peculiar and characteristic. It is short, sharp, and painful, and consequently repressed as much as possible. The fact that it hurts, often makes an expression of pain pass over the face of a pneumonic infant, and causes the utterance of a short cry. Sometimes in children cough is nearly or quite absent.

The difficulty in breathing gives the child no time to cry; and this suppression is a very characteristic feature. One form of cry is the well-known "expiratory moan," which is often present in severe cases. With many of the expirations a short moaning or sighing sound is made. One of the most characteristic symptoms of pneumonia is the very rapid respiration, frequently 70 or 80, or even more in the minute. The rapid breathing is clearly dyspneic also, as evidenced by the moving alæ, the tugging sterno-cleido-mastoids, the sinking in of the episternal notch and the drawing in of the lower ribs and the interspaces by the action of the diaphragm. It is the dyspnea, indicated by these symptoms, that makes the little patient unwilling to lie quietly in bed. Often the most comfortable position in the case of an infant seems to be in the nurse's arms, with the head over her shoulder.

It is a noteworthy observation that, whereas in normal breathing the accent, so to speak, is upon inspiration, in pneumonia expiration is made with the greater force.

There are some interesting peculiarities about the *physical signs* of pneumonia in children to which further reference may well be made. In the first place, there is a striking lack of correspondence between the symptoms, and the signs discovered by physical examination of the chest. Then there is the tendency for all physical signs often to develop very slowly. I have frequently in croupous pneumonia failed to find satisfactory physical signs until the disease was well under way, or, indeed, until after the crisis had occurred. Among the conditions which render percussion difficult and unsatisfactory in childhood is the peculiar resiliency of the chest at this age. Unless the blow be light and percussion carefully performed, it is very easy to overlook a limited area of dulness which could easily have been found. It is as much or more the sensation of resistance to the finger which we must seek, as it is any alteration of the sound. Too hard a blow makes the whole chest reverberate and prevents the possibility of local differentiation. I find a series of rapid light blows the best method as a rule. But in spite of the greatest care it sometimes happens that a child will pass through an attack of pneumonia without at any time revealing a dulness on percussion. Indeed, it often happens that the affected side is tympanitic rather than dull. I do not refer to the high-pitched wooden tympany of Skoda, which may often be observed in subjects of any age, but to a full, deep note which may be audible over a whole side, or, perhaps, only in front, while the back is dull. This tympany may occur in adults as well, but is much oftener heard in children. Quite often it is present even when there is distinct alteration of the auscultatory sounds over the same area. Often,

[1] An address delivered before the Lycoming County Medical Society.

indeed, we may make a diagnosis as easily from the tympanitic note as we could from an impairment. The tympany may last several days and then may or may not be replaced by dulness; or a part of the lung may grow dull and another part may remain tympanitic in spite of other signs of consolidation. This condition of tympany may continue nearly, or quite, until the crisis has taken place. The brief details of the following case—not an unusual one—illustrate this fact:

Susie A., aged six years, was taken suddenly ill with fever and headache. Examination showed numerous scattered râles in the lungs with increased vocal resonance on the right side in front and a decided tympanitic note there. The provisional diagnosis of pneumonia was made. Upon the following day below the right clavicle there were greatly increased vocal resonance and a percussion-note which was more tympanitic and lower pitched than upon the left side. On the fourth day, harsh expiration was added to the other physical signs in front, while behind, down to the angle of the scapula, there was a slight impairment of percussion-resonance. On the sixth day the tympanitic note in front was unchanged, but respiration had become decidedly bronchial. Only by the eighth day of the disease had dulness appeared in front with a still further increase of the other physical signs of consolidation.

Repeatedly in bronchopneumonia the most careful examination will reveal merely a very small area in which there is some impairment of resonance. This condition is the natural result of the diffuse nature of the lesion, only small lobular areas here and there being involved in many cases.

In typical cases of croupous pneumonia the auscultatory signs are naturally the same as in adults. In other cases, however, which are nevertheless just as distinctly pneumonic, either of the croupous or the catarrhal form, a weakening of the respiratory murmur may be all that can be detected; or perhaps there is a slight roughening of it, or a slight prolongation of expiration. In many other instances there is no alteration whatever to be discovered. This occurs in cases in which the lesion is very small, or perhaps centrally located.

It is important to remember that bronchopneumonia is quite usually, and croupous pneumonia not infrequently, preceded by a bronchitis. Consequently mucous râles may perhaps be found present during the whole course of the attack. In many instances we may base a diagnosis upon these râles. In bronchitis, for example, the râles are wide-spread, or, if heard in one situation one day, are very likely to be audible only in another place upon a subsequent examination. If, however, we find râles which persistently remain audible in only one place, we have reason to presume that in this spot there is an area of pneumonic lung. The true crepitant râle is sometimes heard, but oftener not found. A peculiar ringing quality, what may be called an increased vocal resonance of the râle, is often present and is very characteristic of pneumonia. It has not infrequently happened that I have been able to locate a bronchopneumonic area by noticing that whereas the râles in other parts of the lungs were all of one kind, those audible over a small area had this peculiar character described. In the absence of cry this may be our only way of testing vocal resonance; and in my experience vocal resonance is one of the most reliable tests for pneumonic lung in children. If the child does cry it is likely that we can hear some increase of vocal resonance in the area to which the râles have drawn our attention.

There are several minor subdivisions of pneumonia described, some of which are rather more characteristic of children than of adults. Prominent among these is that known as *abortive pneumonia*. In this class are contained the cases so commonly described as "congestion of the lungs," a term which is much better omitted from our medical literature, so far, at least, as it relates to a condition bearing any relationship to pneumonia.

Abortive pneumonia is seen especially in children. All the ordinary earlier symptoms of croupous pneumonia are present, but the physical signs are usually almost negative, and the whole process stops suddenly in a few days. In a smaller number of cases distinct physical signs develop, but rapidly resolve, just, perhaps, as we expect to encounter a severe case of the disease. Although abortive pneumonia must be familiar to all, I venture to give the following history:

A. A., the one-year-old child of a physician of Philadelphia appeared to have taken cold on the night of March 14th, and on the morning of the 16th had some fever and nervousness, and a cough, which appeared to be painful. A few diffuse râles were audible in the chest. By the afternoon of the same day he looked very ill, had a temperature of 103° and respiration of 80, with some cyanosis. Numerous râles were heard in both lungs, but no evidence of consolidation was found. The child presented all the appearances of a case of beginning croupous pneumonia, but by the next day, the 17th, after not more than thirty-six hours' sickness, he was very greatly better, with a total change in his general condition. His state continued to be excellent, without fever, but with rather numerous, although

diminishing, coarse râles in the chest. Not until about a week after the first development of symptoms was a decided increase of vocal resonance discoverable over the upper part of the right lung behind.

This case is not only a beautiful instance of a form of abortive pneumonia, but it exemplifies, too, the late development of physical signs in some cases.

Creeping or wandering pneumonia is a well-recognized form in adults as well as in children. It is, perhaps, oftenest seen after influenza, but may occur independently of this. One part of the lung is affected, then another while the first clears up, the symptoms meanwhile continuing in full force, so that the course of the affection may be unusually prolonged. Of course, the ordinary attack of bronchopneumonia is of a creeping nature, the process gradually extending from one part of the lung to another, usually, however, with no tendency to resolution until the attack begins to approach a favorable termination.

Cases exhibiting a pseudo-crisis cannot be called true instances of wandering pneumonia, nor, strictly speaking, of relapse. In this condition the temperature falls, and convalescence seems established, when there is another rise, perhaps with an involvement of some other part of the lungs. It may be that the temperature is not quite normal, yet the condition of the child is such that immediate recovery is expected. In a case which I recently saw in consultation, a little boy of twenty-three months had suffered from an attack of croupous pneumonia in the left lung, beginning October 16th. On October 19th the temperature was 105°, but on the 20th it had fallen to 100°, all the symptoms were greatly improved, and the physician in attendance had very properly pronounced the child about to convalesce. Upon the following day, however, there was a sudden return of all the symptoms in an aggravated form, together with physical signs of consolidation in the other lung. This second attack lasted several days. When I last heard of the child, about three weeks after the onset of the disease, he was running about in perfect health, as it seemed, but with the physical signs of consolidation unchanged—another instance of the delayed resolution, to which reference will be made later.

Pneumonia gastrica is a well-marked form in children. The attack starts with vomiting, coated tongue, pain in the abdomen, and perhaps diarrhea; and only after a day or longer can the diagnosis of pneumonia be made. The following case shows how pneumonia may develop in this way, and the family suspect no more than a severe attack of indigestion:

Harry A., aged about eight years, was taken sick October 18, 1886, with headache, high fever, and vomiting. The vomiting continued unabated on the 19th, and on the 20th, the third day of the attack, the child was worse than at any preceding time. There was now great loss of appetite, with fever, thirst, and slight delirium, and vomiting of everything taken. There was a loose bronchial cough merely, such as he had had for several weeks. When I first saw him, on the fourth day of the disease, he was still vomiting as before, his temperature was 101.2°, and there were also found distinct physical signs of pneumonia in the right lung. By the 23d, the sixth day of the disease, the child was convalescent and the physical signs had nearly disappeared.

Finally we may mention cerebral pneumonia, in which the disease appears to be a meningitis rather than an affection of the lungs; or in which the early symptoms for some days are cerebral rather than pulmonary. The following case illustrates the nervous symptoms accompanying this form:

Ambrose G., aged five and one-half years, was taken sick on February 13th with headache, vomiting, and moderate diarrhea. February 14th, condition was unchanged, except that the diarrhea had almost ceased. February 15th. Seemed bewildered in the morning; quite delirious during the greater part of the remainder of the day. Temperature 103° at eight P.M. February 16th. Diarrhea and vomiting ceased. February 17th. Still delirious at times, especially at night. Temperature for the last two days 102 to 104°. February 18th. General condition rather better. No complaint. No tenderness anywhere. Had been having a slight cough, but nothing of note. February 19th. Seems very dull most of the time. Temperature 103°. Very little cough. Dr. Wm. Osler, who saw the child with me on this date, considered the diagnosis obscure, but leaned toward typhoid fever or tuberculosis. February 21st, the ninth day of the disease, there were physical signs of pneumonia present for the first time, *viz.*, bronchial expiration and broncophony below the right clavicle. The temperature was falling, and was now 101° and a fraction. February 23d, the eleventh day of the attack, the temperature was 99°, and the child in good spirits and rapidly convalescing. The auscultatory signs of pneumonia were, however, even more marked than before, in spite of the low-pitched tympany over the affected area. There was, and had been, very little cough.

Different as croupous pneumonia and bronchopneumonia usually are in their symptoms, so, too, are they unlike in their pathological anatomy.

Like, too, as the symptoms are in some cases, so even at the autopsy we may be at times not able easily to complete a diagnosis which was uncertain during life. In some instances we may find *post mortem* a combination of a fibrinous and a catarrhal inflammation. There may be either an inflammation of one sort in one part of the lung and of the other sort in another, or it may even be that the fibrinous and the catarrhal processes are intimately associated. Of course, in ordinary cases the characteristic of croupous pneumonia is the exudation of fibrin within the vesicles. The lung, a lobe, or perhaps only a small portion of pulmonary tissue presents the firm, granular, liver-red appearance so well known. In bronchopneumonia the characteristic is the peribronchial and perialveolar inflammation. The whole lung does not compress as well as it should, and some hard nodules can be felt here and there in it. Section of one of these pneumonic nodules shows this portion to be light-colored and more projecting than the surrounding dark-red collapsed areas and the healthy lung-tissue. Close inspection of the affected region shows small bronchioles, whose lumen is filled with mucus and whose walls are thickened and whitish. In many cases of bronchopneumonia nearly a whole lung may be apparently uniformly consolidated; but even then bands of healthy tissue may be found, and careful examination shows the characteristic appearance of the bronchioles.

In acute tubercular bronchopneumonia the process rapidly goes on to the formation of cheesy nodules, and to a breaking down of lung-structure if the child lives long enough. We must remember that it is never by the fact that the disease is lobular, that the diagnosis of bronchopneumonia can safely be made since fibrinous pneumonia does not need to attack a whole lobe of a lung, and bronchopneumonia, as just stated, may do this. It is on the minuter characteristics described that the diagnosis must rest.

In croupous pneumonia, while any part of the lungs may be affected, the apices seem to be involved oftener than they are in adults. Statistics indicate that the disease is commonest at the right apex, and next so at the left base. This liability of the process to occupy the apex in children is frequently forgotten, and, as a result, the lesion is often overlooked when making a physical examination of the chest. It has long been claimed that apical pneumonia is especially liable to be attended by cerebral symptoms. This is a point which is now much disputed. In my own experience I have not been able to detect any especial tendency to cerebral disturbance in cases of apical localization. In croupous pneumonia the disease is unilateral in the greater number of cases. In bronchopneumonia on the other hand, the disease is usually bilateral if the case is at all a severe, prolonged one. The apex, however, is not commonly involved in this form, except in tubercular cases.

We may now properly turn to the question of the diagnosis of pneumonia; or, rather, to some of the difficulties which attend it, for the points which are entirely clear may well be omitted in this sketch. Croupous pneumonia is often peculiarly like scarlet fever in its onset. The sudden rise of temperature, with rapid pulse, and with the convulsion or vomiting, which so often ushers in both diseases, may leave us in doubt at first.

Croupous pneumonia can hardly be confounded with bronchitis, unless in exceptional cases, but bronchopneumonia must be carefully distinguished from it. This is often a difficult matter to determine, particularly when the bronchitis, which usually precedes, has had added to it the pneumonic condition. Bronchitis is rarely accompanied by much fever or by dyspnea of any moment. When, therefore, in the course of a bronchitis, there is a rise of temperature, accelerated respiration, and a change of the loose or harassing cough to one which is short, painful, and suppressed, we have reason to believe that pneumonia has developed, in spite of the absence of physical signs. When the diagnosis is doubtful, we may take it as a pretty safe rule that we have to do with pneumonia, rather than bronchitis. Here I may say a word about the so-called *capillary bronchitis*. I have never seen a case of pure capillary bronchitis, and the best authorities are disposed to deny the existence of such an affection as an independent disease. While it is conceivable that the smallest bronchial tubes might be involved independently of the alveoli, yet, as a matter of fact, it is probable that this never occurs. Certainly, we are not justified in calling a case one of capillary bronchitis merely because we fail to find signs of consolidation. Of course, the beginning of every bronchopneumonia is a capillary bronchitis, but the process does not stop here, and involvement of the alveoli rapidly follows.

The diagnosis between bronchopneumonia and croupous pneumonia is often easy, often difficult, and often impossible. This last must necessarily be the case sometimes, owing to the existence of mixed forms. In croupous pneumonia the onset is sudden, there are the usual

signs of pneumonia as seen in the adult, the course is short, and the termination is generally by crisis. In bronchopneumonia, on the other hand, the onset is gradual, the dyspnea often greater, the temperature rises more slowly, and its course not so high and more irregular, and the termination, if favorable, is by lysis. The physical signs, too, are more indefinite, dulness being less marked and the alterations of the respiratory murmur more difficult to detect. Yet this statement of the differences is open to numerous exceptions. In bronchopneumonia the onset may be sudden, with convulsions and high temperature, and we may have an area of consolidation develop in which the physical signs are as marked as in cases of croupous pneumonia. On the other hand, in the latter disease the lesion is sometimes very limited, or even undiscoverable. The following case, in its onset and the rapidity of its development, had the most characteristic appearances of the croupous form, although its course, and still more the autopsy, showed that it was not such:

Katie H., aged three years, had had no appetite and had not seemed perfectly well for several weeks, and had had an insignificant cough; but had been playing about. On the evening of February 1st, she developed fever and accelerated respiration with a catch in it. February 2d, temperature in the morning, 104°; respiration of the same character as on the preceding day; alæ moving; frequent, short, hacking cough; numerous fine crepitant superficial râles at the base of the right lung, in front and behind. February 3d, the third day of the disease, respiration rapid; cheeks flushed, short, suppressed cough; bronchial expiration over the middle of the right lung behind. February 4th, marked bronchial inspiration and expiration over the middle of the right lung behind. February 5th, child a little cyanotic; marked dulness over the upper two lobes of the right lung. Delirium set in; fever continued, but was of an irregular type, and respiration was much labored. On February 11th, the eleventh day of the disease, the lower lobe of the right lung became involved. On the 13th there was a fall of temperature to 99°, with cold sensations, and it appeared as though crisis had taken place, but on February 14th the temperature rose again, and there were indications of general involvement of the other lung. On February 16th there were very many mucous râles everywhere. These had been present in increasing numbers from early in the disease. The condition of the child grew worse from this time on, yet without increasing consolidation, and even with apparent improvement in some of the physical signs. Death took place on February 25th, the twenty-fifth day of the disease. The diagnosis was croupous pneumonia, yet with a very anomalous course. The autopsy, however, showed a wide-spread acute tuberculous bronchopneumonia in both lungs.

Such a case as this is sufficient to upset all one's preconceived ideas about the diagnosis of the two forms of pneumonia. Fortunately, such a striking similarity in the early symptoms is not often observed, for I know of no way whatever to arrive at a certain diagnosis.

In children, the difficulty of diagnosing pneumonia from pleurisy is enhanced by the fact that the breathing in cases of effusion is often very tubular, and that fremitus may even be present. The hypodermic needle will usually settle the question, and may be relied on as the most certain method of diagnosis. But even this sometimes leaves us in doubt, for a "dry tap" is, for various reasons, sometimes obtained, even when fluid is present. It is seldom, however, that repeated tappings will fail to reveal fluid if there is any. The following case was one of great interest and perplexity to me at the time, and one which so well illustrates the difficulty of diagnosis, that I may give it in brief here:

Catherine M., aged eleven years, had had for some time fairly well-compensated valvular disease of the heart. When first seen, October 19th, she had been suffering for three days from what her physician had pronounced to be pneumonia. Examination on this date showed the usual symptoms of pneumonia, with the physical signs, *viz.*, dulness of the left axilla, left base behind, and right apex behind, with bronchial breathing over the dull areas. On October 23d, four days later, the dulness was extreme on the left side, particularly below, and there seemed to be some shifting of it, with change of position, making the presence of fluid possible. Yet tactile fremitus was but little diminished, and the voice was distinctly transmitted. The diagnosis being in doubt, a hypodermic needle was used, but gave a dry tap. On the next day, October 26th, vocal fremitus was absent over the left chest; the dulness increased as the base was approached; the breath-sounds, although audible, were faint —all speaking for effusion. On the other hand, the heart was not displaced, the interspaces moved in with inspiration, there was no alteration of the line of dulness with change of position, and very distinct mucous râles could be heard over the dull area—all this speaking for consolidation, with deficient action of the lung. On November 5th the left side measured three-eighths of an inch more than the right; the respiratory murmur was distant and vocal resonance feeble—speaking for effusion. On the other hand, the bulging præcordium from chronic heart-disease could easily account for the enlargement of the left side, and the heart was still beating in the normal position. On November 11th the

movement of the chest was chiefly on the right side, the dulness was still very marked in the left axilla and behind; vocal fremitus was absent, the breath-sounds feeble, spoken words reached the ear indistinctly. Moreover, this was now the twenty-fifth day of the attack. All this seemed to indicate, beyond doubt, that there was a pleural effusion. However, the heart was in the normal position, and occasional râles could be heard at the base and in the axilla. Besides this, repeated tappings during the days past had failed to find fluid. About this time, too, I was convinced by the intensity of the transmitted sound of the cough that I had to do not with effusion, but with a delayed resolution in a consolidated lung which did not expand, and the tubes of which were probably blocked with mucus, so that the air did not enter it to any extent. The further course of the case confirmed the diagnosis, for as the lung began to resolve and to have air enter it, the signs of consolidation again showed themselves as at first, and there were none of the series of alterations of physical signs characteristic of a disappearing effusion.

Cases of this nature repeatedly occur, in which the diagnosis upon one day seems to lean toward consolidation, and upon the next toward effusion. The possibility of the combination of the two diseases renders the diagnosis still more difficult.

Delayed resolution in pneumonia is a matter to which far too little attention is given in most textbooks, since it is a condition which greatly obscures the diagnosis. One is unable to satisfy one's self by consulting medical literature how long a pneumonic consolidation may persist and yet indicate no phthisical changes. In adults I have repeatedly seen resolution delayed for weeks, and in children this seems to be even more frequent. In many cases of delayed resolution the fever subsides and yet the consolidation continues; but in other cases the fever persists. In the case just related the consolidation was present for at least nine weeks. In the following case the delay of resolution was even greater:

S. A., girl of six years, was attacked toward the end of September by croupous pneumonia, which involved first the right lung, and then the left, the right side meanwhile clearing up. Resolution was thus delayed, and the temperature fell by lysis, reaching normal by the nineteenth day of the disease. At this time purpura developed as a sequel. The child recovered from this attack and was out of bed in about a month after the onset of the pneumonia. The left lung still showed loud bronchial breathing, bronchophony, and dulness, on percussion. The child was not seen again until the following March, a period of five months. At this time she was running about apparently well, except for a loose, troublesome cough. The lung was still consolidated throughout, with bronchophony, coarse muçous râles, and other signs which made me believe that there undoubtedly was phthisical softening going on. Later, after a period of several months more, I saw the girl again and found her entirely well. The consolidation must then have lasted decidedly over five months.

The delayed resolution spoken of appertains to croupous pneumonia. In bronchopneumonia, too, resolution is sometimes very unusually delayed. The following case indicates that hope may never be abandoned in this disease until death is actually present:

Mamie C., aged about two years, was admitted to the Children's Hospital in Philadelphia in the early spring, suffering with bronchopneumonia. There was a well-marked patch of consolidation in the upper part of the right lung behind. There was daily fever of a somewhat hectic type. The child constantly grew paler, and more wasted, and had every appearance of being a sufferer from phthisis. In the course of the summer she was several times sent to the County Branch of the Hospital in the hope that the fresher air would do her good; and several times was returned to the main hospital apparently in a dying condition. By the autumn she commenced to improve, and did so rapidly, losing at last all consolidation, and regaining entire health.

I may say of this case that I never felt more sure of a diagnosis of phthisis, and had never less hope of any improvement whatever; also that the attendants were on several occasions daily expecting the child to die. Her final recovery, therefore, was a correspondingly great surprise.

I have still to refer to the curious cases of pneumonia in children in which the cough is nearly or entirely absent. The case of Ambrose G., already referred to, was an instance of a very slight development of cough, and the following case illustrates its absence in a still more striking manner:

Mary Agnes McC., aged eight years, was admitted to St. Agnes Hospital, October 27th, suffering with chorea. She was put to bed and given Fowler's solution. Improvement continued until November 15th, when she became suddenly ill. Her pulse rose to 170, and her respiration equaled 80 and 90, and was quite shallow. She complained of great abdominal pain and tenderness. A purgative, followed by an enema, and by turpentine stupes, gave no relief. As her aspect was that of a very ill child the resident physician called upon me to tell me of the case, saying that he feared arsenical poisoning. After careful questioning I assured him that there were no toxic symptoms, but said that I suspected peritonitis. Upon the following day I saw the child in the presence of several physicians from the Philadelphia Poly-

clinic, and none of us had any doubt that we had to do with a peritonitis. The feet were drawn up in bed, the abdomen distended and very tender, and the expression anxious. There was some fever, and the child complained of abdominal pain. The respiration was shallow and rapid, as one sees it in a peritoneal inflammation. Although there had been no cough whatever I examined the chest as a matter of routine, and was surprised to find well-developed signs of pneumonia in the upper part of the right lung. Upon the next day, the 17th of November, the abdomen, although still tender, was much better, and by evening all pain had disappeared. It was evident by this time that the diagnosis of peritonitis was untenable, and that the pain was evidently a referred pain. The pneumonic condition rapidly extended, the attack was an unusually severe one, cyanosis set in early, and the child died on the 18th or 19th. Cough was so little of a feature that there is some disagreement among the attendants whether there was any at all.

This tendency of children to refer pain to some other part of the body than that where it is actually produced is well known. The case just related exhibits pain referred to the abdomen; for there was no reason to think, as the course of the disease progressed, that there was also a peritonitis. As a counter-case to this, emphasizing the difficulties in diagnosis, I may mention an instance which occurred in the Children's Hospital during the service of one of my colleagues, in which peritonitis was supposed to be pneumonia.

The likeness of pneumonia to cerebral affections, and particularly to meningitis, has already been mentioned in speaking of cerebral pneumonia. Sometimes the diagnosis is impossible, particularly in the light of the fact that the two diseases are often combined. Many a child with pneumonia will show well-marked symptoms of meningitis, and yet have no inflammation of the meninges.

With regard to prognosis, the very great majority of cases of croupous pneumonia in previously healthy children will recover. The prognosis of bronchopneumonia is very much less favorable, and the bronchopneumonia consecutive to measles, whooping-cough, or diphtheria is one of our most fatal affections.

In considering treatment we must first attend to prophylaxis. The great danger of bronchitis in infants is its tendency to run into bronchopneumonia, and even croupous pneumonia not infrequently follows a few days of bronchitis. Consequently, every child must be carefully guarded against taking cold, and be most carefully treated if bronchitis is already present. Suitable hygiene of the house and of the clothing, and of the life in general, will aid in the first; confinement to bed and proper medication, external and internal, fulfils the second indication.

Regarding the treatment of an attack of pneumonia, I may first speak of the use of applications to the chest. The cotton jacket has not, in my opinion, any of the great value which is attributed to it by so many practitioners. I have treated children with it and without it, and I have never been able to see that those without it were any worse off. If the jacket is applied with the idea that we thus prevent taking cold and increasing the pneumonia, we are working upon an entirely incorrect principle; for, since croupous pneumonia is an infectious disease, the influence of "taking cold" is probably slight when the disease is well under way. We well know, too, that it is by no means the part exposed which suffers, even in a general cold. For instance, wetting the feet is a common source of cold in the head. For the same reason, then, that we wrap the chest up in cotton in pneumonia, we should envelop the whole body in cotton in order to avoid chilling of any region, and thus increasing the pulmonary disease. Indeed, the use of a cotton jacket renders the skin more susceptible when the physician makes his examinations of the chest; and if it is capable of doing good, it is equally capable of doing harm. Of course, these statements do not mean that we should be reckless in exposing the child to chilling. All draughts are to be carefully avoided, and the child must constantly be properly covered with bed-clothes.

Here I may say, however, that we, as physicians, should hold in check the strange desire so many mothers have to burden a feverish child with a vast quantity of bed-covers. Infants cannot, of course, complain, and even older children, when apathetic, as they become with the disease, will not make complaint of being too hot.

What I have said with regard to the cotton jacket applies in some respects to the use of the jacket-poultice. I would strongly protest against its routine employment. There is not any evidence that the poultice is in any way curative, and it is certainly often heavy and uncomfortable, and renders respiration more difficult. This statement, like the last, is open to exceptions, and I by no means intend to condemn the poultice absolutely—only its routine employment. It should be used for exceptional cases, and with a definite purpose. I have seen the application and frequent renewal of a light, hot jacket-poultice give the greatest relief in the intense dyspnea which

is particularly apt to accompany bronchopneumonia. I do not know how it acts in these cases, unless by relieving the bronchitis, but the good it does in ameliorating the symptoms is sometimes very prompt and decided. Care must be taken that the poultice is properly applied, as otherwise it soon slips down and covers more of the abdomen than of the chest. Other applications are of less value. Blisters are not proper treatment for infants, in my opinion, and are not indicated in older children. Rubefacients, such as turpentine and mustard, are of value in bronchial catarrhs following pneumonia, or occurring independently of it, rather than in the pneumonic process itself. Dry cups may sometimes be of service. The use of ice or of ice-water compresses on the chest is a valuable procedure where there is much pain, particularly if the fever is high, since it acts as an antipyretic as well.

The treatment of fever in pneumonia is an interesting subject. Ten years ago the medical world acted on the principle that high temperature, by whatever caused, ought to be reduced at all hazards. Now there is a tendency to let the fever take care of itself. Whether or not high temperature is to be treated depends altogether upon the individual case. If convulsions are threatening, or actually going on, and we have reason to believe that they are due to hyperpyrexia, no time should be lost and the temperature should be lowered at once. So also if a child is restless and uncomfortable, as a result of high fever, the temperature should be reduced. Again, if the temperature in bronchopneumonia is persistently high, and we have reason to fear the action upon the tissues of such continued elevation, it is proper to take measures to alter the condition. But to treat fever simply because it is fever, is, I think, a mistaken policy. How the temperature shall be reduced is the question which naturally arises. Ten years ago every one turned at once to the internal antipyretics. Now the tendency is to decry them in a wholesale manner as harmful. As with nearly everything else, the truth, it seems to me, lies in a middle course. I have seen the whole aspect of a case changed and impending convulsions aborted by the administration to a child of a drug of the coal-tar antipyretic series. In my experience, children bear these drugs, as a rule, remarkably well; better than adults do. A series of observations upon the use of these drugs in children, which I published two or three years ago,[1] thoroughly convinced me of their value in properly selected cases. As a rule, however, I think that hydrotherapeutic measures are to be preferred. Sponging is of great service, and the tepid tub-bath is invaluable for reducing fever and allaying nervousness in children. It will act efficiently, when water of the same temperature would have failed in adults. Where this does not succeed we should not hesitate to proceed to the use of the cold tub-bath, exactly as in typhoid fever. It is a mistaken idea that the cold bath must not be used because we are dealing with an inflammatory disease of the chest. I have repeatedly used the cold bath, both in adults and children suffering with pneumonia, and never with bad results. Here again, the nervous symptoms are more a guide for its use than is the mere elevation of temperature.

In this connection I may speak of the hot bath; not used for any action upon temperature, but for its surprising influence upon the general state, and especially on the dyspnea. In the case of children, especially infants, who are extremely dyspneic, cyanosed, pallid, and apparently nearing death, a plunge into a hot bath of 105° or 110° often causes a vigorous reaction with renewed respiratory power. The child should be kept in the bath from three to at the most five minutes, and then wrapped in blankets. I was sent for by a physician living in New Jersey to see his baby, ill with pneumonia. The child's condition was as I have described. I advocated a hot bath, which the father was almost afraid to give, since the state of the child was so very low. While admitting that the procedure seemed rough, and was not devoid of danger, I still urged that death would certainly take place soon unless some change could be brought about. The effect was excellent. The blue color disappeared, and the natural color returned; respiration was made greatly easier, and the other symptoms were correspondingly improved. The baths were given repeatedly during the illness, and I think they would have succeeded in saving the child's life had I not reason to believe, from subsequent events, that the case was one of tubercular bronchopneumonia and consequently hopeless. This treatment with the hot plunge-bath is good, I may say, for other conditions where death seems imminent from failure of respiration, as, for instance, in atelectasis, and I have seen children recover who were apparently moribund.

The antitoxin described by the brothers Klemperer was hailed with enthusiasm, but has not obtained a foothold. The few cases in adults in which I have studied its action were not helped by it.

[1] *Archives of Pediatrics.*

There is no one line of treatment which can be followed out in every case. The physician who says that he treats pneumonia in this or that way, as though it were some harmful beast to be slain in some definite manner, falls far short of a true understanding of his subject and of his duties to his patient. What drugs we shall select depends entirely upon circumstances. In some instances aconite seems to be of distinct value, especially early in the disease; yet it is a medicine which must be used with care. I have thought that I got good results from aconite especially in children. Digitalis is certainly of service in many cases, yet caution must be observed not to drive the heart too much. Alcohol is a standby whenever we fear failure of the vital powers. Strychnin is useful for the same purpose, and as a respiratory stimulant as well, and may be given in large doses to children in suitable cases. There prevails, to some extent, an ill-founded fear of opium. It is a drug of extreme value in many instances, yet one which must be used carefully, especially where the patient has any increasing tendency to apathy or mental dulness. Under such conditions, it is hardly safe to give it at all to children. Ammonium carbonate is a disagreeable drug, but one which seems to be useful in some instances. It is not now, however, viewed as the proper routine treatment, as it once was. I myself give it comparatively seldom. Ammonium chlorid has seemed to me of service, particularly in bronchopneumonia, although some writers deny it any special value. In strong children, oppressed by a large secretion of mucus, an emetic of ipecacuanha often gives great relief, but it is only exceptionally that it is indicated. The use of vapor, especially under a tent of blankets, is sometimes of much service, when dyspnea is urgent. The value of inhalations of oxygen for cyanosis is never to be forgotten.

LOCAL QUARANTINE.

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THE general principles governing the local quarantine of contagious diseases in this State have been but recently reaffirmed by a circular of our Board of Health. I shall, therefore, content myself with a criticism of some of these regulations, and some suggestions looking toward their better administration and a lessening of the hardships sometimes following their execution.

What to quarantine.—This has been settled for us by the circular referred to. To the list[1] there given of contagious diseases, the writer would be glad to see added gonorrhea and syphilis. He is well aware, however, that this is possible only in the sanitary Utopia of the future.

Whooping-cough should certainly be placed upon the list of diseases which should be placarded. This disease is so little feared by the uneducated portion of the laity that very many cases are never seen by a physician until the occurrence of pneumonia, bronchitis, or other febrile complications alarms the relatives. As Dr. Sweemer pointed out to this Society a year ago, the mortality of this disease is greater than that of scarlatina. The great length of time during which the patient may infect others, and the necessity of allowing the children to exercise in the open air, render the enforcement of strict isolation particularly onerous and difficult. Perhaps the method in use in Germany to indicate the bearer of a fresh vaccine vesicle, a piece of colored cloth attached to the sleeve, might be employed.

Tuberculous patients, too, should be reported and put on the "suspicious list," to the extent of receiving instruction, supplementing that of the medical adviser, concerning the dangers of indiscriminate expectoration. A proper record of these patients would enable the authorities to enforce proper disinfection of all premises vacated by reason of their death or removal.

How to quarantine, and do it effectually, is a problem, which has not, as yet, been wholly solved. The usual method of placarding a house containing a case of contagious disease, is still looked upon, by altogether too large a portion of the laity, as a concession to a medical fetish. Officious and sympathetic neighbors will run in, and children not yet sick will be sent on errands or out to play, in spite of the admonitions of the medical adviser and health officer. It is difficult to prevent this without placing guards at each house, as was done during the recent smallpox-epidemic in Milwaukee. But here the financial specter lifts its warning hand.

Nor will the establishment of an isolation-hospital, however well appointed and managed, remedy the evil. Recent experience shows that a large portion of the populace will resist to the utmost the removal of patients to such an institution. Education, which requires time, seems to be the only remedy. The fear of loss of occupation, and consequent privation or destitution has,

[1] Asiatic cholera, yellow fever, smallpox, typhus fever, leprosy, bubonic plague, diphtheria, scarlet fever, typhoid fever, measles, röthein, and whooping-cough.

in my experience, been the cause of delay in sending for a physician, with correspondingly increased opportunities for the dissemination of infection, and greater severity of the original case. The writer knows of several cases where great hardships were inflicted upon boarders, especially upon teachers, by an outbreak of contagious disease in their place of domicile. The fact that they came from an infected house debarred them from entrance into other boarding-places.

The establishment of a "House of Detention," to which such exposed persons could be taken, bathed, disinfected, and observed, until the period of quarantine had expired, would mitigate such hardships to a considerable degree. In the case of diseases whose cause is known, such as cholera or diphtheria, a bacteriological examination with negative result, could be followed by immediate discharge of the suspect after disinfection of the clothing, etc. In other diseases the suspect having been removed much earlier from contact with the disease, the "date of last exposure" would be much earlier, with a lessened liability of contracting the disease. The isolation of the sick from the well, in the workingman's cottage as well as in some more pretentious quarters, is not attempted for lack of room, nor can it be enforced where a tired, overworked mother is sole nurse and housekeeper. Here, again, the "House of Detention" would show its value. The members of the family remaining well could, after the expiration of the quarantine-period, be sent to relatives or boarded at the expense of the community until they could go home in safety.

In suggesting the establishment of a "House of Detention" (House of Observation, or Observation-hospital might be a less repellant title), I am well aware of the many objections, financial as well as social, which may be urged against it. While everybody would agree that it would be a very desirable thing, everyone would want it located at the other end of the town, and fight its location in his own neighborhood to the full extent of the law. Quarantine implies, as a necessary sequel, disinfection. A thorough and efficient disinfection, as we now understand the term, requires a large and expensive plant and trained help. The ordinary fumigation with sulphur is nothing but a fumigation, a smoking.

If you recall the scene you all have probably witnessed, where the entire surplus-stock of clothing had hung uncovered in the patient's room, and the exulting remark of the mother, that she had removed the best pieces before fumigation for fear the vapors would spoil them; and also recall the impossibility of penetrating mattresses and feather beds by vaporous antiseptics under atmospheric pressure, you can hardly be surprised that contagious diseases break out again and again. In order properly and thoroughly to disinfect an infected house, the furniture, and in fact all its contents, should be covered by, or packed in, carbolized sheets, and brought in closed wagons to a place where they can be subjected to the action of live steam under pressure. Meanwhile, the house could be fumigated with sulphur after wetting down the walls, then well aired and scrubbed, and the walls limewashed or repapered. Such a house could be again occupied with confidence and safety.

The question will be asked: Where will the patients and attendants go during this prolonged operation? I answer, to a department of this same observation-hospital, where they can undergo personal disinfection. In fact, such a house of refuge was proposed, if not actually built, in the city of Berlin some years ago. The city of Milwaukee has made a good beginning by the construction of a disinfecting van, in which infected articles can be subjected to live steam; but to my mind, anything less than the measures outlined above can hardly be called a thorough disinfection.

For the transportation of suspects and convalescents to and from the observation-hospital, the authorities should provide suitable vehicles capable of perfect disinfection. Stringent orders should be issued to teachers to insure the observance of rules of the circular referred to. This rule provides that school- and library-books shall not be taken into infected houses, or, if therein, shall be destroyed. No child should be allowed to enter school from an infected (disinfected) house unless provided with new books. Similar instructions should be issued, absolutely prohibiting teachers from sending children to a residence to ascertain the reason for the scholar's absence. This is done, I know, quite frequently in the city of Milwaukee, and its dangers need hardly be pointed out.

Cases of typhoid fever should receive a stricter surveillance from the health authorities than they have heretofore received. It is absolutely impossible to estimate the number of undisinfected typhoid stools thrown out by careless or overworked nurses, to find their way eventually into the water-supply. The authorities could greatly aid the family physician by frequent inspections and by supplying disinfectants at public expense if needed. In cases of cholera there is hardly

such danger that the attendant's advice will be neglected, the disease running a much shorter course, and the people fearing it much more.

The examination of travelers, their detention and isolation, if found open to suspicion, as well as the establishment of sanitary cordons and camps of observation and refuge, are so complicated by the operation of our triple system of laws, local, State, and national, that they are not within the purview of this paper.

DISINFECTION OF ROOMS AFTER CONTAGIOUS DISEASES.[1]

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SINCE the acceptance of the germ-theory of disease, the word "disinfection" has taken on a somewhat different meaning. Before, it included the temporary removal of infectious matter and the suppression of noxious odors; now, a disinfectant must not only mask bad odors, but must kill the germs that give rise to them, and may well mean a germicide.

To disinfect a room after the existence of contagious disease therein means practically to destroy all of the pathogenic germs and their products that may exist in the room.

The following are the diseases termed "dangerous and contagious" in this State, requiring disinfection after their appearance, *viz.*, Asiatic cholera, smallpox, diphtheria (membranous croup), scarlet fever, typhoid fever, and tuberculosis. In other States, yellow fever and typhus fever, which do not exist in Wisconsin, are added to this list, and in some foreign countries bubonic plague. In some cities in this country, measles and cerebro-spinal meningitis are included among those diseases which require disinfection, and the English authorities so regard erysipelas, and relapsing, continued, and puerperal fevers.

The disease-germs supposed to cause cholera, diphtheria, typhoid fever, and tuberculosis have been isolated. However, disinfection seems to be as efficacious in those diseases where the germ has not been isolated, namely, smallpox and scarlet fever, as in those where it has.

To disinfect a room in which any of the aforesaid diseases has existed, as soon as the patient has been removed by recovery or death, no time should be lost in carrying out the process of disinfection decided upon. In the first place, all inexpensive articles of clothing, fabrics, etc., that are found in the room, should be burned. In the second place, all washable fabrics should be plunged into boiling water for at least a quarter of an hour. In the third place, all beds, mattresses, bolsters, pillows, carpets, rugs, stuffing of easy chairs, etc., should be packed up, if possible, in rubber receptacles or bags, and removed to a disinfectant station, where a thorough system of disinfection by steam can be conducted. These stations should exist in certain districts throughout the country, and in every city and large village.[1] It is utterly impossible to disinfect the aforesaid material satisfactorily by any other process known at the present time, than by submitting it to hot steam for from ten to fifteen minutes, which should come in contact with every portion of the article to be disinfected. Mattresses, pillows, bolsters, etc., should be opened before being subjected to the process. Fourth, the floor in the room should be washed with a 1–1000 corrosive-sublimate solution, care being taken to saturate the interspaces between boards, and the walls should be sprayed in like manner by a garden-syringe or similar apparatus. All crevices about the window-frames and sashes and doors should be thoroughly washed with this solution; also the furniture in the room, after the upholstering has been removed, or that which is not provided with upholstering. The ceiling should be limewashed, and special attention be paid to cornices and all ornamental work, that no part escape a thorough application. The papered walls should be bared, the paper being removed and burned, after which the walls should be thoroughly whitewashed before being repapered. All picture-frames and other articles having gilt frames, also fenders, fire-irons, and metal-work generally, which cannot be washed by corrosive sublimate, should be covered by a five-per-cent. carbolized vaselin and thoroughly wiped dry, or, in many instances, they may need only to be well polished. Of course, this does not apply to dishes, etc., of all descriptions, which may be boiled. The room should then be left with the windows open for a day or two, after which it is well to whitewash the ceiling and walls again and scrub the floors with soap and soda, which will convert any remaining sublimate into a non-volatile compound. A fresh coat of paint would be of further security.

[1] Read before the Wisconsin State Medical Society.

[1] It is unnecessary for me to go into the details of a disinfection-station, as information relative to this matter is in the possession of all who have given any attention to the subject, and it is now a recognized fact that such stations and apparatus can be put into operation at a comparatively low cost in any city or village, and their method of operation is so simple that any one with ordinary intelligence can soon learn to operate them.

It is to be borne in mind that pure air, and plenty of it, and sunlight are two of the most valuable germicides we have at the present time. They are almost always available, and should be utilized in every way and as long as possible in the process of disinfection.

I have no confidence in the use of sulphur[1] burned in rooms as a disinfectant for general use, inasmuch as it is impossible to carry out the necessary details in order to have it effectual. No doubt it is efficacious in instances where three pounds of sulphur can be burned in a moist atmosphere containing a space of 1000 cubic feet; but the room must be absolutely sealed from the invasion of air, which is a very difficult thing to obtain, as a general rule, and is, in a majority of instances, impracticable. We know that the bacilli of anthrax are exceedingly difficult to destroy, but Koch found that in an atmosphere containing one per cent. of sulphurous acid the bacilli died within one half-hour, but the spores resisted in an atmosphere containing six per cent. for days, although when spread on wet filter-paper, they were killed in an atmosphere containing five per cent. in twenty-four hours. In some instances, where no other means are obtainable, sulphur-fumes used as stated may be advisable, but are not to be recommended.

We know that the bacilli of diphtheria, typhoid fever, and tuberculosis are comparatively easily destroyed where they can be fully exposed. A great deal depends upon the care of the patient and room. By removing from the latter needless furniture, carefully destroying all effete matters thrown off by the former, and thus preventing the dissemination of these germs in the atmosphere surrounding the patient, disinfection, after the patient has been removed from the room, is rendered easy. But it must not be considered that the atmosphere is the dangerous element so much as articles of furniture, floors, ceilings, and walls of rooms. Professor Willoughby of London correctly states that "Aerial disinfection is a work of medieval superstition, a delusion, and a snare, satisfying ignorance and diverting the attention from really efficient methods of disinfection."

In typhoid fever we have some problems to contend with, not yet fully solved. It has been supposed that the entire danger of this disease was contained in the discharges from the alimentary canal, but recent observations have led us to suspect that the disease may be taken from the urine, the perspiration, and the respiration of the patient. This being the case, it is advisable not only to disinfect the discharges from the alimentary canal, which can best be done by having them deposited in a five-per-cent. solution of carbolic acid or in the milk of lime, but also that the bedding, floor, and perhaps wall and ceiling, and the furniture of the room should be disinfected, as in other germ-diseases. This is a matter, however, not yet fully developed.

Finally, it is well to remember that the most effective agents in disinfection are the cheapest, namely, corrosive sublimate, lime-wash, boiling water or steam, together with sunlight and pure air. It is very probable that experimental chemists may soon find other chemical agents of a germ-destroying character which will be more efficacious than any we now possess.

[1] If the reader will take the pains to refer to pages 277 and 495 of the present volume of the MEDICAL NEWS, he will be convinced by the report of Mr. Henry Kenwood's experiments that the fumes of burning sulphur are much more efficient and reliable than the author of this article seems willing to admit.—ED.

ROUTINE CLEANLINESS, ISOLATION, AND WATCHFULNESS OF SCHOOLS AND CHILDREN.[1]

BY SAMUEL H. FRIEND, M.D.,
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DURING the past year my attention was called to the sanitary conditions existing in one of our public ward-schools. Upon inspection, I found such a palpable neglect of both routine cleanliness and building arrangements as would appear hardly possible at the present time, when the knowledge of both as infecting agents is so widespread. Briefly summarized, these abnormal conditions were as follows:

Under indications of a lack of routine cleanliness there were: In the basement, a wet floor under the urinals, the odor of which could be got upon entering the building; filthy seats to closets; dust and cobwebs sticking to the walls and ceilings. There were on the three stories above, dust-laden floors, more especially noted in the corners of stairways and schoolrooms; dirt upon walls, ceilings, desk-stands, desks, foot-boards, window-casings, sills and windows, with cobwebs here and there attached to the ceilings; filthy, greasy-looking slates; a single washstand on each floor, the iron basins of which were rusty, while the wooden casings were greasily dirt-stained, with no soap visible. Over each water-spigot was a single, filthy, rust-stained, tinned drinking-cup, hanging upon a rusty nail.

Under building arrangements I found: In the basement, closets and urinals exposed to dim daylight, and no sunlight; closed plumbing; wooden

[1] Read at the meeting of the Wisconsin State Medical Society.

floors; low ceilings; no arrangements for ventilation. On the upper flats the floors were of soft pine, much worn, and the joints were separated. Walls and ceilings were cracked and rough. There were no arrangements for ventilation save by opening windows.

With the exception of a small addition, the building was very old. From six hundred to eight hundred children and teachers were housed from 8.30 A.M. to 12 M., and from 1.30 P.M. to 4 P.M. each day. When consideration is given to the germ-carrying capacity of the clothing, shoes, hats, hands, hair, and saliva of the children attending this school, in many of whose homes diseases prevail, it is obvious that, with these unhygienic surroundings, whenever there is an infectious disease in this city, this school represents a large number of cases.

Taking the investigations of Schiller, Cornelly, and Foggie, Brown-Séquard and D'Arsonval, Mitchell, Billings, Bergey, and many others as guides, everything indicates that far more insidious unhygienic conditions exist in our schools than in hospitals. This is especially apparent in general class-rooms wherein, irrespective of location of homes and their internal cleanliness, all children are aggregated according to advancement in learning. The result is that they, and all persons with whom they may come in contact, have only the individual resistance of the cell as a protection. This resistance, or range of bactericidal force of the cell, may be so abnormally limited by the struggle between hereditary biological phenomena and forced acquirements that it cannot protect itself against the microörganisms present.

As we know, hospitals are now systematized so that buildings and wards are specialized. Every detail of clothing, bedding, etc., is rigidly guarded. From the researches of Leewenhoek, Hunter, Jenner, Huxley, Tyndall, Pasteur, Lister, Koch, and Semmelweis, we have learned methods for preventing the spread of infectious diseases. We apply them in our most detailed practices. The preceding pages indicate the necessity of their minute application in schools. Then why do we not apply them there?

With the desire of advocating reforms in schools, I have made inquiries at the various orphan asylums and other institutions in this city, and I have consulted such literature as is at hand, to ascertain the character and frequency of contagious diseases. The uniform information is that such diseases are less frequent and in a diminished proportion to the numbers of children housed and confined during certain hours, as in schools. These facts point strongly to three systematic methods of living, when consideration is given to hereditary predispositions, such as are presented in children living in orphan asylums. They are: Stringent routine cleanliness, isolation, and espionage or watchfulness.

As another reason for these reforms in schools, I need only quote the precautions of physician, surgeon, and nurse in the operating and obstetrical rooms. It is only necessary to mention the investigations of Fraenkel, Cornet, Manfredi, and many others in order to justify extreme precautionary measures. A further fact which should demand these reforms is that in most cities in this country the position of health commissioner is a political office, and as a consequence appointments are made only because of a "pull," and irrespective of fitness. If, perchance, the health officer is fitted for the work by virtue of a knowl edge of minute and detailed technical hygienic requirements, then he is hampered in doing his duty by a lay board of aldermen, who virtually dictate his policy. Such a condition of affairs makes the proper watchfulness of contagious diseases almost an impossibility, and as a consequence it is not uncommon to hear of children attending school when one or more members in the family have some contagious disease. This is in part also owing to a certain carelessness in the physician in not reporting such cases.

From these facts, the indications are that the biological resistance of the cell is being primarily limited by the action of the faulty ventilation, combined with the discipline necessary to impress the acquirements of our present civilization. The result is, that the lack of routine cleanliness and watchfulness of the homes and schoolhouses causes the children to carry into and accumulate in both innumerable pathogenic germs, which find a ready medium for further evolution in the weakened cell.

The problems to be solved, then, arrange themselves under two headings:

(1) To devise systems of education which do not enervate the child by limiting accommodation and bactericidal force, and (2) to use compensatory measures against the accumulation of pathogenic germs in the houses, the schools, and upon the clothing, shoes, hands, etc., of the children. Time alone will solve the first. From preceding evidence, the second may be accomplished by (1) stringent rules governing the architecture of school-buildings and their routine cleanliness; routine use of soap and water for exposed parts of the body—face and hands, and (2) by the use

in the schoolroom and during school-hours of outer garments, which will cover the clothing worn, and, as a consequence, isolate pupil from pupil, and persons in general from the pathogenic germs clinging to ordinary clothing. The stuff for such garments for both foot- and body-wear could be made of very inexpensive material. Every school should be compelled to place in some part of every school-building a sterilizer, so that these outer garments (devised and made as best suits the condition to be met) can be surgically cleaned each day and made a part of the routine cleanliness, as is the sweeping of floors, etc. These garments can be tagged, lettered, or numbered, and placed in lockers for daily use. As suggested by Cohn and adopted in most European countries, "a qualified hygienist, having a special diploma stating his fitness," should be made an advisor of the school-board and have supervision of the hygiene of schools. The health-commissionership should be a non-partisan appointment—fitness alone determining a choice.

In closing, I would call the attention of the members of this society to the use in schools of the pernicious feather duster which simply displaces dust, and I would suggest in substitution the use of damp gauze, which catches all dust, and, on account of its cheapness, could be burned, or, if desired for further use, could be sterilized.

AN ADDRESS.

THE HOSPITAL AND DISPENSARY ABUSE.[1]

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WHEN I look over the long list of presidents of this Society, and perceive such names as Hosack, Cock, the two Rogers, Delafield, Bulkley, Taylor, Finnell, Hubbard, Peasley, the two Elliotts, Jacobi, Sands, Peters, Bumstead, Purdy, Sturgis, Webster, Vanderpoel, Lewis, Grandin, and Fisher, I cannot but feel that I have received a great honor in being chosen as a successor to these gentlemen.

In the great changes that have taken place in this city between 1806, when this body first came into existence and the population was about 90,000, and the present year, during which it is estimated that the dwellers within our corporate limits number 1,851,060, medical societies have multiplied, not only for scientific, but also for social, topographical, and collegiate reasons, and the County Society no longer occupies the same relative position that it did for years after its foundation; and this has too often caused those not familiar with its work to overlook the fact that it is possessed of great powers, which would make medical men instinctively turn to it as an arm of strength in time of trouble or epidemic. It has at the present time a membership of 1484. It is the official or representative society of the medical profession in the county of New York; while, through its delegates, who can become members of the State Society by the simple process of attending for two successive years, it has an intimate affiliation with the larger organization, and by this intermediary, with every county medical society in the State. It has three standing committees of great importance. By means of the one upon Ethics it regulates the professional conduct of its members with an authority that very few men would care to dispute. By its committee on Hygiene it keeps watch over the public health, and the committee upon Prize Essays gives an opportunity for generous recognition to many a struggling man of talent. It has a large and active Comitia Minora, acting as councilors to the President. It has a salaried legal counsel standing ready to protect the interests of the profession against imposture and injudicious legislation. It is in the metropolis, and its incentives, its opportunity, and its dignity are that of the greatest city of the country, so that what it does (provided it be worthy of notice) is known of all physicians throughout the broad American nation. I do not need to remind you how effectively these powers have been used in the past and are being employed in the present, for the historian of the battles that have been fought and won here for a higher standard in medicine, would need more than an evening to chronicle them.

It would seem, from what information is at my disposal that the members of this Society are not aware of the fact that Section 41 of the Consolidation Act, Chapter 410, Laws of 1892, disqualifies a physician from being the president of the municipal Board of Health in these words:

"The head of the health department shall be called the board of health. Said board shall consist of the president of the board of police, the health officer of the port, and two officers, one of whom shall have been a practising physician for not less than five years preceding his appointment. The commissioner of health, who is not a physician, shall be the president of the board, and shall be so designated in his appointment. The commissioners of health shall, unless sooner removed, respectively hold their offices for six years, and until their successors shall be respectively appointed and have qualified."

I am told that this clause was copied from the Charter of 1873, but I am at a loss to understand the reason for the disqualification of physicians for an office peculiarly requiring medical skill and experience.

But I ask your especial attention to-night to the abuse of medical charity—a subject which has been so often discussed and rediscussed that our souls have become weary, and I should hesitate to allude to it but for the seeming opportunity now offered to us in the power recently given to the State Board of Charities to revoke the charter of any institution proven to dispense medical charity improperly. This clause was introduced into the new Consti-

[1] Inaugural address of the President-elect of the New York County Medical Society, delivered at the annual meeting, November 23, 1896.

tution by Mr. Tunis G. Bergen, president of the State Board of Charities, to whom the profession is under a lasting debt of gratitude; and I never fully appreciated what this gentleman has attempted to do for us until I obtained accurate figures upon the subject, through the kindness of our distinguished colleague, Dr. Stephen Smith, who is a most energetic member of the same board. From these statistics it appears that the county of New York has at the present time twenty-six hospitals and 114 dispensaries. In the former, during 1895, 75,368 patients have been treated free, and in the latter 661,803, making a total of 737,171. The population of this city is only 1,851,060, so that the proportion of such free patients to the whole community is thirty-nine per cent. There have been 92,529 free visits of patients to hospitals in 1895, and 1,387,170 free visits of patients to dispensaries. Out of 1,104,381 prescriptions that have been dispensed there is no means of knowing exactly how many have been without charge, because fifty-two of the dispensaries have made no report to the State Board of Charities, while of the sixty-two that have reported, sixteen make no charge for their medicine, and forty-six make nominal charges of from five to fifty cents, or nothing when the patients are unable to pay. Of these 114 dispensaries, sixty take certain precautions to weed out the unworthy, such as making inquiries, questioning the patients, judging by their appearance, and by the statements of physicians sending them, while the remaining fifty-four either make no inquiries or have made no report. In attendance upon these 114 dispensaries are 949 medical men, which is twenty-seven per cent. of all the physicians in the city, who number 3430. Efforts were made to ascertain how many of these patients were non-residents, but the answers were usually very indefinite; one institution stating "Very few, if any," others "from one to ten per cent.," while ten had treated 2124. The foregoing summary does not include institutions under the charge of the local Commissioners of Charity, one of whom, Mr. John P. Faure, has kindly informed me that there are eight city hospitals, containing 7089 patients, and that the out-patient branch has treated 49,620 patients during the year ending June 30, 1895. Although it is probable that these cases are really worthy of charity, yet, in strict logic, the figures should be added to those given above, which would swell the total of patients treated in this city in one year to 793,880.

These statistics confirm the rumors that have been rife among us for many years, such as that the president of one of the largest municipal railroad corporations was discovered to be a regular attendant at one of the dispensaries; that patients come occasionally to the clinics in carriages; that practices can almost always be obtained from certain clinics in a large dispensary, such as those of general medicine or gynecology; that the neighborhood of large dispensaries is bare of physicians' residences; that patients come to town from distant cities with a physician, occasionally with a relative, put up at a hotel, seek a clinic for medical advice, and when told in one dispensary that they are not fit objects of charity, speed away in hot indignation to another; that patients are frequently sent to a clinic with a letter from the attending physician containing a modest request for diagnosis, prognosis, and treatment, inquiry eliciting that their intention is to go back to this gentleman's office and pay him for treatment; that patients in the country towns for miles around New York are quite appreciative of the excellencies of our city dispensaries for different diseases; and that patients constantly go to dispensaries in order to ascertain the best physician for their particular disease. The reason for the enormous increase in our charity work is plain to any one who has witnessed the development of our hospitals and dispensaries of late years. The public must be appealed to for money; the larger the number of patients, the more need shown for money; and no effective general regulations being strongly enforced, the growth of the abuse has been so stupendous that all methods of restriction have proved utterly ineffectual. The intentions have been altruistic in the extreme, on the part of both lay and medical members of hospital boards; indeed, it is questionable whether any one has known the full extent of the evil.

It will not be denied for one moment that a certain, nay, a liberal amount of charity work is a necessity to the medical profession, distinguishing it in this respect from all others. The lawyer, for instance, the engineer, the minister, the architect, the *littérateur*, the journalist, can each perfect himself in the art of his calling without proffering his services gratuitously. But the physician must study types of disease only to be adequately observed in sufficiently large numbers either in a very large practice or in hospitals and dispensaries—indeed, it may be doubted whether the fullest practice, in the harvest-time of a successful physician's life, can offer him such opportunities for familiarizing himself with maladies as do our hospitals and dispensaries. It must be remembered, too, that relatively few men obtain great practices, and that they can only hold them by means of the knowledge of ailments acquired in the previous years of attendance upon hospitals and dispensaries. So that these institutions are the training-schools of our profession, inestimable to the men whom they bring into contact with each other in their varyingly eager and mutually stimulating pursuit of the same ideal, aided by the assistants, the instruments, the nurses, the housing, and the organization of such corporations. Then, the thousands of students who come to this city must be taught, and this cannot be done without the clinical material of hospitals and dispensaries. Any unwise restraint would therefore imperil the existence of New York as the medical center of the country, and no man in his senses would dream of such restriction. But such manifestly indiscriminate charity as exists does not seem necessary to these purposes. It is trite to say that no suffering person should fail to receive the medical aid that may be needed in the emergencies of life, but in this city there really does not seem to be much likelihood of such a grievance, when 949 physicians, out of a total of 3430, treated 737,171 patients in one year, made 1,479,609 free visits, and wrote 1,104,381 prescriptions, besides paying due attention to the other duties incidental to attendance upon twenty-six hospitals and 114 dispensaries.

In our medical profession there are gentlemen who

have been so favored by fortune that it has not been their lot to come in contact with the seamy side of practice; there are others to whom fame has brought its attendant success; there are still others whose special branches obviate the necessity of general practice. To these medical men this statement of facts may seem exaggerated, but the great body of practitioners, and those who are broad-minded enough to realize this grave violation of the first principles of a wholesome political economy, will feel, as I do, that prompt and just measures should be taken to regulate our medical charities. For my part, I have a most thorough appreciation of the needs of those upon whom we should bestow charity, but my sympathy is broad enough to embrace the medical as well as the lay poor. I therefore recommend to this Society that a special committee be appointed to obtain such facts about this subject as may be necessary to just conclusions, and that the results of this investigation be submitted to the entire Society for such action as it may think proper. I would suggest that this committee consist of eleven members, namely: the chairman, five members to represent respectively the five medical schools, and the other five on behalf of the profession in general.

CLINICAL MEMORANDA.

A CASE OF EXSECTION OF THE RECTUM BY THE VAGINAL ROUTE.

BY A. T. BRISTOW, M.D.,
OF BROOKLYN;
SURGEON TO THE LONG ISLAND HOSPITAL; ST. JOHN'S HOSPITAL.

THE operation of exsection of the rectum, whether in male or female, ought to be restricted to those cases in which it is possible to get well above the growth which must not have invaded neighboring tissues. The old route by the perineum neither gave the requisite room for operation on any but growths quite low down, nor did it give the same opportunity for dealing with hemorrhage that later operations have done. The more modern methods of Kraske, Rydgaier, Bardenheur, *et al.*, secure the room which a high exsection requires by resecting the sacrum below the third sacral foramen, either transversely or laterally. In this manner it is possible to resect the entire rectum, and at the same time control the hemorrhage, always profuse, in a much more satisfactory way than after the old operation. The mortality of the operation is high, however, averaging in the hands of the best operators twenty-three per cent. In the hands of surgeons in general the mortality will be higher still. No doubt so severe a proceeding as resection of the sacrum must add to the gravity of the procedure, and yet in the male this can never be avoided, as in no other way can the necessary room be secured which a complete operation requires. My attention was called to a method of operating in the female by a reference in an article of Gerster's, appearing in the October number of the *Annals of Surgery*, to two cases of exsection of the rectum *per vaginam*. Two operators in Europe, Rehn of Frankfort, and Campenon of France, had removed the rectum in the female by this method. The method seemed to me feasible and to possess certain advantages over the sacral route, so that I determined to try it if a suitable case presented itself. The operation which I am about to describe is the third on record up to date, and so far as I know has not been done by any other operator in this country. Since writing the above Byford has reported a case in the *Annals of Surgery* for November, '96.

CASE.—October 31, 1895, there entered my service in St. John's Hospital, J. E. W., spinster, aged fifty-seven. Two years ago she began to have pain in the abdomen, localized afterward in the rectum, especially severe on defecation. She passes much pus and blood, and fecal matter in tape-like strips. Examination discloses a tumor as high as the finger can reach. The vagina seems clear of growth. A diagnosis of rectal carcinoma was made, and one week later inguinal colotomy was done after Maydl's method. This gave the patient much comfort, and she began to gain in weight and was relieved of pain. Her condition continuing to improve, it was determined to attempt extirpation of the growth by the vaginal route. This was done on January 11, 1896. A median incision was made in the rectovaginal septum, from cervix to perineum, through which the bowel was enucleated without much trouble after the division of the levator-ani fibers, and the clearance of the bowel at the anal outlet. The hemorrhoidal arteries were recognized and tied in the course of the dissection, and the bleeding was easily controlled, that which gave the most, and, indeed, the only trouble, coming from the vaginal cut. After severing the levator-fibers the bowel was enucleated with the finger. Although this was a virgin vagina the rectum was easily accessible, and six inches of bowel were removed, the end remaining being stitched into the wound after being brought down as low as possible. The vaginal wound was sutured, as it was believed that the artificial anus in the groin would be less disagreeable to the patient, safer against recurrence as removing all sources of irritation from the original seat of the disease, and more easily taken care of. The patient made a good recovery from the operation. A few months afterward, however, the disease recurred, and the pelvis is now hopelessly involved. The method gives easy access to six inches of rectum without the shock of a sacral resection. Further than six inches it is not possible to go, judging from my experience in this case.

DELAYED UNION OF FRACTURED TIBIA DUE TO PREGNANCY.

BY J. HERBERT DAREY, A.M., M.D.,
OF NORTHWOOD, IOWA;
FELLOW OF THE AMERICAN ACADEMY OF MEDICINE.

ON May 20th, 1891, I was called to see Mrs. D., who had been watching her husband fishing in the moonlight, below a mill-dam. While stepping on the slimy logs of the apron of the dam, she slipped, and fractured her right tibia about the middle of the shaft. The patient was the same one, by the way, whom I reported in the *Montreal Medical Journal*, vol. xviii, p. 732, as having supernumerary breasts. I put the leg in a fracture-box, and kept it there for a week or ten days, till the swelling

had all subsided. Then I put it up in plaster of Paris. I took off the plaster-dressing about six weeks after the injury, and the limb seemed perfectly straight, and the fracture firmly united. I could not get any motion in it at any rate. I advised her to try and go about the house carefully with the aid of a crutch, and to try to use the leg as much as she could bear. In about a week she sent for me, saying that the leg was not firm and solid as it ought to be. On examination I found that there was defective union, and got considerable motion at the seat of fracture, by firm pressure. I forcibly rubbed the broken ends together, and put the leg up in plaster of Paris a second time, feeling considerably chagrined at the non-union, which I could not account for in any way. I left the plaster-dressing on for six weeks more before I took it off. The leg was straight and in good position, but still there was non-union. I was completely puzzled by this state of things in a strong, healthy countrywoman, about thirty-five years of age, who had never had any serious sickness in her life, and was apparently in the best of health at the time. I soon heard from some of the neighbors that Mrs. D. was pregnant, which seemed to me to furnish a possible explanation of the non-union. On investigation, she admitted that she was three months pregnant at the time of the accident, and was by this time about six months advanced. She was a stout, fat, heavily built woman, with a pendulous abdomen, and I never had noticed any particular change in her shape. I now told her that there was no use doing anything further till the child was born. There was some motion, but the fibula acted as a good splint, so I told her to be very careful with her leg, and allowed her to go about the house with her knee on a chair. In this way she managed to do all her housework for a family of six or seven children till she was confined at full term. After her confinement, without any further treatment, the tibia united firmly, and now that leg is just as sound as the other one. The only explanation of this that occurs to me is that the osteogenetic elements of her blood went to form the fetal skeleton, instead of healing the fracture of the tibia. That this explanation is correct, is proved by the subsequent history of the case, and the rapid and permanent union of the fracture. I had never seen anything bearing on this subject in the text-books, nor have I ever read any similar case in the journals, and as it is a rare case, I desire to have it recorded.

MEDICAL PROGRESS.

Pseudo-bulbar Palsy of Cerebral Origin in Children.—As the result of a clinical study relating to involvement of the cerebral nerves in a series of cases of cerebral palsy in children, KOENIG (*Zeitschrift für klinische Medicin*, Bd. xxx, H. 3, 4, p. 285) has found that among the clinically atypical forms of cerebral diplegia there occur exceptional cases characterized by a prominence of the symptoms of bulbar paralysis, which may be designated the "pseudo-bulbar form of cerebral paralysis in children," or the "infantile form of pseudo-bulbar paralysis." In addition to this classic variety there occur masked forms characterized by the absence, or but slight manifestation, of difficulty in swallowing. Especially in such cases is great care required in the interpretation of the speech-disturbance, as a slight degree of nasal speech may be due to the existence, past or present, of adenoid growths in the naso-pharynx, or, more commonly, to a general relaxation of the entire muscular apparatus, in which the veil of the palate participates. There is, however, a group of cases in which speech, apart from its nasal character, is so distinctive as to be recognized as only of central origin.

Myelitis in a Choreic Child Following Treatment With Arsenic.—At a recent meeting of the Société Médicale des Hôpitaux, COMBY (*Presse Medicale*, 1896, No. 52, ccix) reported the case of a girl, seven years old, without rheumatic or cardiopathic antecedents, who came under observation about a week after the onset of a severe attack of chorea. Treatment was begun with the administration daily of the equivalent of $\frac{1}{4}$ grain of arsenious acid, the dose being increased daily $\frac{1}{14}$ grain, until it equaled $\frac{1}{2}$ a grain, and then being reduced in the same manner to $\frac{1}{4}$ grain. In this way $3\frac{1}{2}$ grains of arsenious acid were given in the course of eleven days. After the fifth day the choreic movements ceased, and did not return. On the sixth day vomiting occurred, the tongue was coated and slight febrile movement set in. After ten or twelve days the gastric disturbance disappeared, and the patient left the hospital. In five weeks, however, she returned, having been paraplegic for a week. The general condition otherwise was quite good; from having been pale and emaciated the child had become ruddy and full. The paralysis of the lower extremities was complete and the reflexes were abolished, but sensibility was unaffected, and there was an absence of trophic disturbance. In spite of treatment with strychnia, faradization, and sulphurous baths, the paralysis ascended to the trunk and the upper extremities, although in less degree than in the lower. Subsequently there was for a period of ten days incontinence of urine and feces. Finally improvement set in, and progressed in the inverse order of the invasion; and in the course of rather more than a month had advanced to complete recovery. The symptoms in this case are attributed to a myelitis of arsenical origin.

Cholecysto-bronchial Fistula, with Expulsion of a Gall-stone.—VISSERING (*Münchener Medicinische Wochenschrift*, 1896, No. 24, p. 567) has reported the case of a fairly well-nourished man, sixty-three years old, who had complained for two days of a sense of pressure in the epigastrium, loss of appetite and constipation. On the following day the patient was seized with a severe chill, attended with intense pain in the abdomen, particularly in the right iliac region, and obstinate vomiting. Perspiration was free, while the skin felt cold and the pulse was scarcely appreciable. The abdomen was moderately distended. A diagnosis of perityphlitis was made, poultices were applied locally, and opium was administered internally. The active symptoms ameliorated, but the liver increased in size, and became the seat of pain. Subsequently jaundice developed, and the stools were clay-colored, while the urine contained biliary coloring-matters.

In the further progress of the case the gall-bladder also became evidently distended, while the general condition of the patient grew gradually worse. The temperature fluctuated slightly above the normal, the pulse varied in frequency and size, and the respiration was accelerated. In the course of a month chills recurred, with elevation of temperature and dyspnea, and the signs of right-sided pleurisy. At the same time diminution in the size of the liver and of the gall-bladder appeared to take place, with lessening of the pain. The expectoration had by this time become copious and offensive; it was at first purulent, but soon presented an ocher-yellow, and the patient complained that its taste was as bitter as gall. This peculiarity of the expectorated matters was repeated from time to time, always with some diminution of the jaundice. Finally the diagnosis of a fistulous communication between the gall-bladder and the bronchial apparatus was confirmed by the expectoration of a gall-stone as large as a pea. The patient declined operative interference.

A Report of 105 Deliveries of Women With Contracted Pelves.—As a result of the study of the labor in 105 cases of contracted pelvis among a total of 4289 cases of all kinds under observation at the German Obstetric Clinic of the University of Prague, between the years 1891 and 1895, KNAPP (*Archiv für Gynäkologie*, B. 51, H. 3, p. 483) has reached the following conclusions: In proportion to the reports of other clinics the number of contracted pelves has been small. Flat and generally contracted pelves, without demonstrable evidences of rachitis, appear to preponderate over deformities due to rachitis; although it is not to be denied that at least one-half of all pelvic deformities can be attributed to rachitis, as this affection is by no means uncommon among Bohemian women. Among the whole number of cases osteomalacia was observed in but five; all happened to occur in one year (1895); but there was no relation between this fact and place of residence. Bohemian women, in general robust, usually presented with contracted pelves slender skeletons—especially was this so of primiparæ. The uterine contractions were, with individual exceptions, commensurate. Premature rupture of the amnion protracted the labor in most cases, and occurred more commonly in connection with contracted pelves than with normal. Expectant treatment was generally sufficient in most cases, both for mother and child. In regard to morbidity operative interference yielded for the mothers more favorable results than expectancy, and the reverse for the children. The complete results among the 105 cases were exceedingly favorable among the mothers; a mortality of 0.95 per cent.; but not so among the children—31.43 per cent. These results are attributable to the rule observed to place the greater importance upon the life of the mother.

Skiagraphy Applied to the Study of Akromegaly.—MARIE has described two types of akromegaly—the ordinary massive form and the giant form, which develop in accordance with the period of life at which the disease makes its appearance. Thus, if the disorder begins during the period of active growth, when the bodies of the bones, as well as the epiphyses, are capable of enlargement, the giant form usually results; whereas, if the disease begins after bone-growth has been completed, the massive form is likely to result. MARINESCO (*Compt. rend. heb. des Sciences de la Soc. de Biologie*, 1896, No. 21, p. 615) secured skiagraphs in three cases of akromegaly of the common massive type, and in one of giant variety. The first of the cases was in a man fifty-five years old, in whom the disease had been present for eleven years. Metacarpus and phalanges were uniformly enlarged, the increase representing merely an exaggeration of the normal. In another patient, thirty-three years old, presenting the aspect of a giant, the disease had begun about eight years before. The increase in size in this instance was rather in the direction of length, and the soft parts did not take part in the enlargement to the same degree as in the other type of the disease. Another patient, thirty-three years old, in whom the disease had existed for not less than seven years, presented, contrary to the accepted explanation, the massive type of the disease. In him the extremities of the bones were especially involved, and the circumference rather than the length. In the fourth case, occurring in a woman fifty-four years old, and of the massive type, the disease had been present for nine years, and was not well developed. The nose was especially enlarged. The bony lesions corresponded with those found in the other two cases of similar kind. Skiagraphs from a case of erythromegalia failed to disclose any skeletal alterations, an observation confirmatory of the view that this affection has no relation with akromegaly. In all of the cases of akromegaly the lateral aspect of the last phalanges appeared to be excavated, probably as a result of the very considerable enlargement of the epiphyses of these bones.

THERAPEUTIC NOTES.

Nitroglycerin in Angina Pectoris.—SCHOTT (*Wiener klin. Rundschau*, September 6, 1896) advocates the following prescription as the most efficacious form of administering nitroglycerin in angina pectoris:

℞ Nitroglycerin . . . . . gr. iij
Tinct. capici . . . . . ʒ ss
Spir. rectificat } aa . . . ʒ iij
Aq. menth. pip. }
Sig. 2–10 drops.

In one minute the action of the drug is manifest, and in scarcely three minutes the pain is entirely done away with. As the patient grows accustomed to the dose, it must be increased, and if this be done carefully there is no great danger to be anticipated.

To Prevent Baldness.—The following prescription is in use in the Dermatological Clinic in Vienna to prevent the hair from falling out:

℞ Tr. cinchona rubræ . . . . ʒ i
" cantharidis . . . . ʒ ss
Ac. carbolici . . . . ʒ ss
Strych. sulph. . . . . gr. ij
Eau de Cologne } aa . . q. s. *ad.* ʒ iv
Olei cocos }

One or two applications *per diem* are required.

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SATURDAY, DECEMBER 5, 1896.

ULCERATIVE ENDOCARDITIS SUCCESSFULLY TREATED BY ANTISTREPTOCOCCIC SERUM.

THE serum-treatment of disease is being constantly extended and with steadily increasing confidence in its efficacy.

Dr. Sainsbury, at the Royal Free Hospital, London, had the case of a lad, aged thirteen years, who had both renal and cardiac disease with febrile and other symptoms confirmatory of the diagnosis of malignant endocarditis. A treatment by injection of an antistreptococcic serum, beginning with a dose of 20 c.c., and continuing at half that dose, 70 c.c. in all being administered, was adopted. The disease, in the opinion of Dr. Sainsbury, as reported in the *Lancet*, London, October 17th, responded so promptly and satisfactorily to the serum-treatment that no apology is needed for recording it. Before the injections were commenced the patient had lapsed into a condition of marked cachexia; within two or three days the improvement in the aspect and bearing of the boy was unmistakable—he was clearer-looking, brighter, and the desquamating skin cleaned rapidly. Neither local reaction at the site of the puncture, nor any general reaction was observed except on September 1st, the time of the last injection, when the sudden rise in temperature, the general appearance of illness, and the pain at the site of the injection, followed so speedily upon the treatment, that there seemed no other explanation for the symptoms than the dose of serum. The boy, however, soon rallied, and then, curiously, took a fresh start; his temperature for the first time became normal, and his advance was then so rapid and uninterrupted that there was no excuse for another injection. Thus all the injections were markedly effective, but most so this last injection, which produced definite local and general symptoms. Was this reaction an unnecessary concomitant—the result of a by-product, or was it to be regarded as of the nature of a curative reaction?

In a recent case of ulcerative endocarditis at the Victoria Park Hospital for Chest-diseases, the antistreptococcic serum failed to arrest the disease, and seemed to have no beneficial effects; in this case, however, there was, in addition to the endocarditis, grave kidney-disease with cortical destruction, which may account for the failure; the disease was, moreover, in a more advanced stage, and of more virulent type.

THE CULLINGWORTH MALPRACTICE SUIT.

A SUIT for malpractice has recently been decided in England, which involves points of great practical importance, and deserves the serious attention of every active surgeon. The questions at issue were of vital concern to the patient on the one hand, and to the surgeon on the other. Plainly stated, they may be considered as follows: Has a patient, who is in full possession of his faculties, and about to undergo a surgical operation, the right to set the limits to that operation? And is a surgeon, who has advised and undertaken a definite operation, justified in extending the procedure, even to the removal of organs, not previously mentioned, if, in the course of the operation, he deems it vastly to the best interest of his patient so to do?

The case in question may be briefly stated thus: A trained nurse, who suffered from pelvic trouble, consulted Dr. Cullingworth of London

regarding her ailment. Upon examination, he discovered a swelling in the pelvis, which he diagnosed as an inflamed cyst of the right ovary. This he made known to the patient, and, in response to her inquiries, informed her that the left ovary was probably healthy, but it was impossible to speak with certainty regarding it. If, however, upon examination after the abdominal section, it also proved to be diseased, he should use his discretion about removing it. To this complete castration she was violently opposed, and never positively consented, although the doctor insisted that, while he would respect her wishes, she should leave the matter in his hands. By finally accepting the operation, the operator inferred that she had relinquished her objections.

From the evidence, it appears that Dr. Cullingworth took great care to explain to the patient what the remote effect of the operation would be: that if only one ovary were removed it would be quite possible for her to become a mother, but if both ovaries were sacrificed sterility must eventuate. Three separate and distinct interviews were held on the subject, and although the Doctor and the patient were directly at variance in their testimony before the court, the circumstances were corroborative of the statement of the former, to wit: that he could not bind himself by any promise not to remove the second ovary if it should prove necessary. From the pathological description of the organs, there was no question of the hopeless condition of the second ovary. The operator showed his consideration for the patient's wishes by endeavoring to dissect out the cystic portion of this ovary, and thus conserve the remainder, but his effort to leave healthy ovarian tissue was absolutely futile. The entire organ was thereupon removed. The case before the court became, therefore, simply an issue of veracity between the doctor and the patient regarding the previous understanding, and the jury lost no time in deciding positively in favor of the doctor. And the long, weary months of worry, anxiety, and persecution that he has endured for the sake of vindicating his position, and securing for it the support of the public is worthy of all praise.

Recurring now to the questions previously propounded, it may be said that the patient is the sole arbiter of his own life so long as he satisfies the canons of his belief in God and a hereafter, and does not offend the social and statute laws of his country. If he chooses, while in the possession of sound mind to take the chances with disease, although it may be contrary to the best professional judgment and advice for him to do so, no human being shall gainsay him the privilege.

On the other hand, the surgeon, when once he has entered upon an operation, has only the highest welfare of his patient and his own reputation at stake, both motives inciting him to do what is for the patient's best interest. Moreover, the patient can never be made to comprehend the vital importance of many technical procedures. Even after the fullest explanation, he is frequently confused or he wholly misunderstands. He must trust the details and the methods of meeting exigencies as they arise to the judgment of his medical adviser. Still, the unexpected that frequently arises in the course of an operation may be of serious import, and lead to the sacrifice of organs or parts of the body far beyond the anticipation of either surgeon or patient. The best interests of the patient will, therefore, be conserved if he places himself in the hands of the surgeon, trusting in his judgment to do what is best. But the only safety of the surgeon lies in securing the consent of his patient to that view of the case before the operation is begun. Indeed, it is a good rule of practice habitually to secure such consent.

Some surgeons go so far in this matter as never to undertake a serious operation without first securing the written consent of the patient to do whatever in their judgment they shall adjudge necessary. In operations on advanced cases of cancer of the breast it sometimes develops that the only hope of eradicating the disease and securing the prospect of a cure necessitates the amputation of the arm at the shoulder-joint. A similar experience often befalls the surgeon in operations for the relief of bone diseases. And yet few men would venture to carry these operations to their fullest extent without a previous understanding that their judgment was to be used and trusted.

THE "FUROR SCRIBENDI."

NEVER, for a corresponding period, in the history of medicine, has there been such a flood of technical literature as the last decade has produced. It is true that this decade has perhaps furnished more material than any that preceded it, but, even discounting this, there has been a veritable plethora of medical articles, monographs, and books. Foremost, perhaps, among the books we see a revival of the "systems;" a system of practice of medicine, of nervous diseases, of surgery, of gynecology, and so on. Doubtless this method is in a general way satisfactory, though it has many and serious defects. In the first place, the articles are notably uneven. This prevents the "system" from being an authority, at least to a great extent. The good and bad articles are somewhat indiscriminately sandwiched, and from a height of admiration of a good chapter we descend to the depths of despair at a very bad one. Then, too, some of the more ambitious "systems" require such a long time in their preparation that the first volumes frequently have the mild flavor of a back number before the last volumes are through the press.

The temptation for a college professor to write a book is apparently almost irresistible, and few men in our larger colleges have withstood it. The inducement for the college professor is obvious; it makes his teaching decidedly easier, and he has an admiring, and in many instances, a buying audience in his students, past and to come. Of course, in very many cases, the college professor is eminently fitted for book-making, but it by no means follows as a matter of course that because a man is a professor in a college he is competent to write a book.

Then the immense multitude of journal articles! A multitude that no man, except the editor of the *Index Medicus*, can number. Nearly every city in this country boasts one or more medical journals, and the death of one seems to be the signal for two or three new ones to rise phenixlike from its ashes. It is not clear whether the *furor scribendi* is a cause or an effect of the multiplicity of medical journals. While most of the important work appears first in the journals, still there is such an immense amount of trash that the really valuable papers are often obscured.

A duty which is much neglected in our medical colleges is the training of the student in scientific writing. When he gets into practice and is attacked by the *furor scribendi*, he is very prone to choose a large subject. He is prone to revel in "typhoid fever," the "treatment of pulmonary tuberculosis," or "Bright's disease." If, instead of doing this, he would confine his ambition to some limited field—for example, instead of disposing of the whole subject of typhoid fever he would take part of the subject, and discuss from the standpoint of his experience the eruption or the relapse, or some special symptom, his paper might be of value. Again, many valuable observations are obscured by the title. A "case of appendicitis" is usually passed over as one of no special interest, while in fact it may contain a point of great importance which is lost to the reader because it was not noted in the title. One who reads many journals gets into the habit, perhaps unconsciously, of passing over the papers on a general subject, unless he has reason to expect something from the particular author, and looks for special studies upon particular points. This concentration of work upon a limited area is what has made the monograph so valuable. If then the *furor scribendi* is to continue, and there is no indication of its subsidence, let it be directed to careful and accurate observation in a limited field. There are many men throughout the country who can, from time to time, furnish valuable microscopic bits, but it requires a master to make a subject interesting, macroscopically.

ECHOES AND NEWS.

An Epidemic of Scarlatina.—An epidemic of scarlatina attended with great mortality is raging throughout Southern Russia.

The Increasing Frequency of Cancer.—The number of cancerous cases in England and Wales has increased from 4500 in 1840 to 40,000 in 1895.

Yellow Fever at Port au Prince.—Yellow fever of a malignant character has broken out at Port au Prince, Haiti. It will probably continue to be fatal for some weeks.

Unwholesome Sandwiches.—In Hollidaysburg, Pa., some sixty-five guests were poisoned at a social gathering by

eating ham sandwiches. Severe sickness, but no fatalities are reported.

Deaths from Tight Lacing.—Two London inquests held within a week have resulted in verdicts that death was caused by tight lacing. The autopsy in one case revealed cirrhosis of the liver.

Ohio Boards of Health to Regulate Plumbing.—By a provision of the last Legislature, any person, firm, or corporation engaged in plumbing in Ohio is required to take out a license. Inspectors of plumbing are to be appointed in each city or town.

The Grafe Gold Medal.—The German Ophthalmological Society has awarded the Gräfe medal to Professor Leber of Heidelberg. This honor is conferred every ten years. The first one was received by Von Helmholtz for his discovery of ophthalmoscopy.

A Clinic for Defective Speech.—The Polyclinic Hospital in Philadelphia has established a department for the cure of speech-defects which do not require surgical or special medicinal treatment. The department will take cases that need training in vocalization and articulation.

A Chair of Massage.—The University of Berlin has established a department devoted to massage, over which Dr. Zabloudovsky has been appointed professor. This modern therapeutic method has never before received such distinguished recognition in a great university.

Photographing the Retina.—At a recent meeting of the Paris Academy of Medicine, M. Guinkoff stated that he had photographed the interior of the eye successfully. Actual pictures of retinal disease can thus be secured and compared, from time to time, to determine the progress of the disease.

The Morgue-keeper Suspended.—A. N. White, keeper of the morgue at Bellevue Hospital since 1868, was suspended last week to await an investigation by the Commissioners of Charities. It is charged that there has been an unlawful traffic in dead bodies, and that three in particular are not accounted for.

A Good Stroke.—On November 10th the Illinois State Board of Health announced that the National Medical School, the Illinois Medical College, and the Durham Medical College, all of Chicago, had failed to comply with the requirements of the board, and were therefore excluded from official recognition, and their diplomas refused.

Damages Wanted for Catching Cold.—The Pullman Palace Car Company has been sued in St. John, N. B., for $25,000. The complainant alleges that the heating-apparatus, through the negligence of the company, failed to work, and that he contracted a violent cold while asleep, from which a long illness and permanently impaired health resulted.

Typhoid Antitoxin.—Many experiments have been made with only moderate success in elaborating an antitoxin against typhoid fever, but bacteriologists, with commendable zeal, are pursuing the investigation. Through the Department of State at Washington we are now informed that Professor Pfeipper and Dr. Kolle of Berlin have attained methods which promise to furnish most efficient and prompt results.

Football and Prize-fighting.—Mr. Crisp, a member of the Missouri Legislature, states that during the present winter he will introduce a bill to place the game of football on the same plane as prize-fighting, which, in the State of Missouri, is a felony. The difference between the two sports most apparent to a disinterested observer is that the element of danger in the one is multiplied eleven-fold in the other.

Typhoid Fever in Paterson.—Forty-five cases of typhoid fever have been reported in Paterson, N. J., during the past month as against twelve for the corresponding month of last year. The water-supply of that city is procured from above the Passaic Falls, and is considered exceptionally pure. The local physicians have so far been unable to offer a probable explanation for the infection, but report the cases as uniformly mild.

Lactation and Albuminuria.—Dr. Gamulin finds that the practice of suckling is, as a rule, favorable to the reduction of albuminuria, and to the satisfactory nutrition of both mother and infant. Of 158 albuminuric mothers under supervision, who nursed without interruption, only two showed an increase in the albumin excreted, while in only seven others did the amount remain stationary. Among 163 children nursed by those mothers the mean gain in weight was thirty-five grams per day.

Dr. Jameson's Condition.—Since submitting to an operation, about two weeks ago, the health of Dr. Jameson, of South-African fame, has been such as to excite grave alarm among his friends. On the 28th ultimo, under direction of the government, Sir William Broadbent visited him in the Holloway Jail, London, where he is serving a sentence of fifteen months. As a result of the examination, Sir William advised the speedy release of the prisoner. Even immediate removal may come too late to restore his shattered health.

Successful Use of Antivenene-serum.—A small boy in India was bitten upon the bare foot by a *Bungarus cæruleus*, which, next to the cobra, is considered the most destructive snake in India. Luckily, the boy was seen within three minutes after the accident by Surgeon-Major Rennie, who injected 8 c.cm. of Professor Calmette's antivenene. The effect was all that could have been desired, as the patient recovered without a bad symptom. This is the second or third case successfully treated by the serum, and is important, as the hope that it would prove an antidote against the venom of all varities of reptiles seems thereby confirmed.

Operation for a Ventricular Stab Wound.—At the recent meeting of the Congress of German Scientists and Physicians, Rehn of Frankfort showed a patient who had had a stab wound of the right ventricle. He was admitted

into the hospital moribund from copious hemorrhage. The speaker resected the ribs, exposed the heart, enlarged the opening of the pericardium, and sutured the wound in the ventricle. The operation was rendered more difficult in its later stages by the movement of the heart around its long axis. The hemorrhage ceased immediately after suturing. The operation was done fourteen days before the patient was shown.

An Ambulance-ship.—Surgeon-General Tryon and Secretary Herbert of the navy are both fully convinced of the great utility of adding to our navy one or more suitably constructed ships, whose duty shall be to save and care for all wounded and drowning men during an engagement. It is recommended that this vessel shall be of such size as will render it easy of control in action, and swift and efficient in rescuing the large number of sailors who are swept overboard in almost every naval conflict. Such a ship would receive the same consideration and courtesies accorded the wearers of the Red Cross by all civilized nations. The advantages of such a plan have been so impressed upon the minds of all who entertain a proper regard for the lives of our brave sailors that the equipment and trial of these ambulance-ships may be expected as one of the early improvements in the United States Navy.

CORRESPONDENCE.

SECOND PAN-AMERICAN MEDICAL CONGRESS.

Held in the City of Mexico, November 16, 17, 18, and 19, 1896.

[From our Special Correspondent.]

HOTEL DEL JARDIN,
CITY OF MEXICO,
November 20, 1896.

CONTINUING my account of the first day's session, Dr. Rafael Lavista of the City of Mexico followed with a paper on the subject of the toxin and antitoxin treatment of disease by subcutaneous injection of serum. He referred to the experiments made by himself and other Mexican investigators in the treatment of tuberculosis, leprosy, and cancer, and said that their results had not been encouraging. Patients suffering from syphilis had received temporary benefit from the treatment, but a cure had not been obtained in a single case. No satisfactory results had been obtained from the serum treatment of typhus, septicemia, or tetanus. He had had no experience with diphtheria nor typhoid fever, as both of these diseases were of rare occurrence in Mexico. The Mexican profession had very generally followed the practice of injecting large quantities of normal salt-solution as a preventative of surgical shock, and after hemorrhage, and always with marked beneficial results. Personally, he favored the intravenous method.

Dr. Ricardo Lee of the United States of Colombia then read a most interesting paper on "The Prophylaxis of Leprosy." He dwelt at length on the rapid increase of the disease in southern countries, and said that in Colombia it was giving rise to grave concern. He urged the adoption by the State of certain hygienic and social laws that would tend to prevent the spread of the plague, and laid stress upon the importance of encouraging immigration from other countries, whereby new blood would be introduced and the social status of the inhabitants improved.

The Third General Session of the Congress was held on Thursday evening, November 19th, and with its close, Minister Baranda officially declared the Second Pan-American Medical Congress at an end.

Dr. Porfirio Parra read an address, in which he referred to the recent advance in all branches of medicine during the past ten years, and he was followed by Dr. Charles A. L. Reed, who announced that the executive committee had decided that the next Congress would be held in December, 1899, at Caracas.

The official delegates from Canada, Cuba, Colombia, Guatemala, Nicaragua, Ecuador, Venezuela, and Costa Rica were then introduced, and each delivered an address.

The work done in the different Sections of the Congress was exceedingly interesting and valuable. In that devoted to General Medicine, on Monday, Dr. William Pepper read a paper on "The Use of the Röntgen Ray in Thoracic Aneurism," and exhibited a number of excellent skiagraphs in which the aortic enlargements were distinctly visible. He said that the taking of the skiagraph was probably made possible in these instances from the fact that the rays were arrested by the large amount of blood contained in the tumor, and were also influenced by its iron constituents. He had distinctly seen the pulsation of a human heart by the aid of a specially designed tube, and the anatomical parts of the organ were clearly to be made out. This great discovery of the X-ray was still in its infancy, as far as its application was concerned, and he had every reason to suppose that the next year or two would see remarkable advances in this direction.

Dr. Manuel Ruiz Casabó of Havana read a paper on "The Urine in Yellow Fever." This disease was so prevalent in his native city that his opportunities for studying and comparing the characteristics of the urine in it and other diseases had been of an exceptional kind. He said that the appearance of the urine in cases of yellow fever was very variable, according to the individual attacked, but that there were certain characteristic peculiarities that were nearly always present. He read a number of interesting tables of statistics, the result of his investigations.

He was followed by Dr. E. Acosta of Havana, who read a paper on the same subject, prepared by himself and Dr. J. M. Dávalos. It referred to the establishment in Havana, in 1887, of a bacteriological laboratory for the study of infectious diseases. Yellow fever had been exhaustively studied by the authors, and a large number of experiments on rabbits had been made. The conclusions arrived at were that the greater part of the toxin of the disease was eliminated in the urine, and that an examination of the fluid conclusively demonstrates the severity of the attack; that the amount of urea present in the urine bears no relation to the prognosis, and that the patient never dies from uremia, but from the constitutional effect of the toxin.

Dr. Tomás Vincente Coronado of Havana then read a paper on "The Biological Characteristics of the Blood in Yellow Fever," the sum and substance of his investigations being that in this disease the blood showed absolutely no change from the normal state. Blood taken with careful antiseptic precautions, a few hours before death, from a patient suffering from the disease, was precisely similar to that from a perfectly healthy individual. This fact conclusively proved that the seat of the disease was not in the blood.

"Cantharidal Blisters in Acute Pulmonary Affections" was the title of a paper read by Dr. José de la Cerna of Calimaya, Mexico. The author does not approve of the blisters in this connection, as their use will increase the local congestion, and is apt to decrease the amount of urine secreted. As the kidneys are always congested in acute pulmonary affections, one of the principal indications, that of free diuresis, is interfered with to a marked degree.

Dr. J. Llambías of Buenos Ayres read a paper on "The Spontaneous Rupture of the Aorta," in which he claimed that a satisfactory explanation of this accident had not yet been arrived at. He was inclined to think that it is primarily due to an interruption of the blood-current in the vasa vasorum, which ultimately leads to an endarteritis of these vessels, a necrosis resulting from this condition.

At the meeting of the same Section on Tuesday, the second day of the Congress, Dr. Ignacio Ortiz y Córdoba of Cuernavaca, Mexico, presented a case of perineoscrotal hypospadias in an individual, Maria Hernandez, by name, in whom the imperfect act of coition was performed as a male, but in whom the habits, dress, and character were those of a woman.

Dr. A. Holmes of Denver, Col., read a paper on "The Diagnosis of Tuberculosis by Means of a Microscopical Study of the Blood," and was followed by Dr. J. K. Crook of New York in a paper entitled "The Use of Creosote in the Treatment of Pulmonary Diseases." Dr. Holmes referred at length to all that has been accomplished of late in the microchemical study of the blood in tuberculosis, and claimed that in the position in which the science of medicine now stands it was possible not only to recognize the presence of the disease in its incipiency, but that certain marked changes may be made out in the blood of an individual who is of a tuberculous predisposition. He urged that investigations along this line be continued, and that the microscope be brought into requisition at every opportunity, as an early diagnosis of the disease would enable one to take advantage of approved therapeutic and climatic measures.

In the Section on Obstetrics and Gynecology Dr. A. Vanderveer of Albany, N. Y., presented a paper on the subject of "Uterine Fibroids Complicated With Pregnancy." He said that these cases are by no means common, and that unless the position of the tumor is such as will probably interfere with the labor, it is always advisable to delay any operation devised for its removal.

Dr. J. Ignacio Capetillo of the city of Mexico then read a paper on "Dystocia in Mexico," in which he said that on account of the comparative rarity of contracted pelves in Mexican women maternal dystocia is not of frequent occurrence. Prolapsus of the cord and placenta previa are most often met with.

"The Management and Surgical Treatment of Ectopic Pregnancy" was the title of a paper read by Dr. A. P. Clarke of Cambridge, Mass. He expressed the opinion that the galvanic or faradic current could be used to advantage in destroying the fetus, if used very early. In later cases one should always be prepared to do an abdominal section, as hemorrhage or sepsis is apt to be rapidly fatal to the mother if the case is not given immediate attention. Tubal pregnancies are the ones that usually give rise to most marked symptoms.

Dr. Emma B. Culbertson of Boston, Mass., presented the next paper on "The Ambulant Treatment of Certain Forms of Pelvic Disease." She said that many of the patients who apply for gynecological treatment are so circumstanced that the routine of their daily work must not be interfered with, and that, in consequence, the treatment must be so arranged as to be most efficient under these conditions. Malposition, inflamed and congested ovaries and tubes, endometritis, and venereal disease, are the usual affections of this class of patients, and should receive prompt and careful treatment.

"The Treatment of Face Presentations" was the title of a paper read by Dr. José Torres Anzorena, and "The Therapeutic Value of Rest," by Dr. Sarah H. Stevenson. Dr. Antonio Macías read an interesting paper on "The Use of Potassium Iodid in Passive Metrorrhagia," and Dr. E. J. Ill of Newark, N. J., closed the list with one on "A Contribution to the Surgery of the Female Perineum."

On Tuesday, at the second meeting of the Obstetrical and Gynecological Section, the proceedings were opened by the reading of a paper by Dr. J. Ignacio Capetillo of the city of Mexico, describing a case of hydatidiform mole, which had given rise to alarming uterine hemorrhage, and which had been diagnosed as placenta previa.

Dr. Manuel Barreiro, also of the City of Mexico, followed with a paper on "Puerperal Septicemia." He described the routine practice in all cases of confinement at the Maternity Hospital of the city of Mexico. The day following delivery a laxative, and a tepid antiseptic vaginal douche, is given, and the latter repeated every day during the entire puerperium. If the temperature of the patient arises, an intra-uterine douche is given, but if this is ineffectual, a curettage is resorted to at once. The curette may be used a second, and even a third time. The patient is carefully stimulated, especially with strychnia.

Dr. Gonzales de la Vega continued this subject, the title of his paper being "Observations on the Classical Treatment of Puerperal Septicemia," and other papers were read by Dr. Henry Schwartz of St. Louis, Mo., and Dr. Rafael Norma of Tulancingo, Mexico.

The Section on General and Orthopedic Surgery was called to order on Monday, and Dr. Angel Contreras of Puebla, Mexico, opened the proceedings by reporting the case of a boy, six years of age, suffering from tuberculosis of the knee-joint, who was cured by Albertin's method of arthrectomy.

Dr. George W. Crile of Cleveland, O., presented a paper on "Researches into the Technic of Laryngeal Operations, with a Report of Four Successful Total Extirpations," and was followed by Dr. A. D. Spohn of Corpus Christi, Tex., who exhibited a new device to be used in the treatment of fractures of the clavicle.

Dr. E. B. Smith of Detroit, Mich., read the closing paper, which was on "Gastro-enterotomy."

At the Tuesday meeting, Dr. J. A. Fort of Montevideo, Uruguay, read a paper on "Linear Electrolysis in Stricture of the Urethra," in which he described at length the method of procedure devised by him several years ago.

An interesting operation of intestinal resection and anastomosis was performed later on a large dog, at one of the hospitals, by Dr. J. Frank of Chicago, who demonstrated his method of procedure with bone buttons held together by a section of rubber drainage-tube.

Taken altogether, the second Pan-American Medical Congress has been an unqualified success. The papers presented, and the discussions, have been of a thoroughly scientific character, and much good is bound to result from the interchange of opinion between members of the profession living so widely apart. These results will undoubtedly be in evidence before the date of the next meeting. The hospitality and courtesy of those who have entertained us could not have been exceeded, and every visitor will carry away with him the happiest recollections of his stay.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

General Meeting November 27, 1896.

JOSEPH D. BRYANT, M.D., President.
(In charge of the Section on Obstetrics.)

J. CLIFTON EDGAR, M.D., read a paper on

THE TREATMENT OF ECLAMPSIA.

He said that about all that we knew, even at the present day, regarding the nature of puerperal eclampsia, was that it was a form of toxemia. Modern clinical research had, however, brought out the fact that the "pre-eclamptic state" often extended over a period of weeks or months, and manifested itself by easily recognized symptoms and signs. While Dr. E. P. Davis of Philadelphia had shown that where these toxic symptoms were present the urea would be found below 1.5 per cent., and that these symptoms were improved, or made to disappear, by stimulating the excretory organs to activity, it must not be forgotten that there are other toxic substances in the urine besides urea, and that eclampsia sometimes occurs even when the urea is excreted in normal quantity. While the etiology of the toxemia producing puerperal eclampsia was obscure and probably complex, clinical observation points strongly to the metabolism of the fetus as a prominent cause of this toxemia. The successful treatment of puerperal eclampsia must therefore depend upon a prompt recognition of the pre-eclamptic state. This was not to be accomplished by an occasional examination of the urine for albumen alone, as non-albuminuric eclampsia forms from nine to sixteen per cent. of the cases. Other sources of toxemia must be given due consideration. The treatment might be conveniently divided into three parts, *viz.:* (1) The reduction of the amount of nitrogenous food to a minimum; (2) the limitation of the formation and absorption of toxic materials in the intestine and tissues of the body, and the stimulation of the emunctories; and (3) the removal, if necessary, of the source of fetal metabolism by emptying the uterus. The first indication was met by an exclusive milk diet for a time; the second, by securing an abundant supply of pure air and water, and the taking of moderate exercise, together with a proper regulation of the bowels; the third, by the induction of abortion or premature labor, if the symptoms were urgent and did not abate under a milk diet and stimulation of the excretory organs. In cases of eliminative insufficiency, he had found it useful to administer about twice a week, at bedtime, a tablet containing 1 grain each of calomel, digitalis, and squills, and $\frac{1}{15}$ grain of muriate of pilocarpin. Care should be taken to protect the body-surface by good, warm clothing. It could not be too strongly insisted that the foundation of the preventive treatment of puerperal eclampsia was an exclusive milk diet. Regarding the induction of labor, it should be remembered that many obstetricians of repute objected to it on the ground that it produced a dangerous increase of the already abnormal reflex excitability, and was therefore liable to precipitate an attack of puerperal eclampsia. Certainly, this argument carried with it much weight, but, on the other hand, it could not be denied that at the present time it was possible to induce labor very quickly, without undue excitement, and at the same time terminate the pregnancy.

The curative treatment of puerperal eclampsia must be to a certain extent empirical so long as our knowledge of the pathology of this condition is so meager. There are three general indications, *viz.:* (1) The control of the convulsions; (2) emptying the uterus under deep anesthesia by some rapid method, and (3) elimination of the poisons which are presumably responsible for the convulsions. Of the drugs used for controlling the convulsions, he personally favored chloroform, veratrum viride, and chloral, in the order named. He used morphia much less frequently than formerly in these cases, because he had become convinced that it tended to prolong the post-eclamptic stupor, and to increase the tendency to death during coma by interfering with the eliminative processes. The power of veratrum viride to reduce the pulse-rate and the temperature, and at the same time to relax the cervix and produce diaphoresis and diuresis, made it an especially valuable remedy. As the danger from eclampsia was over in ninety per cent. of the cases as soon as the uterus had been emptied, the importance of early and rapid delivery was obvious. For this purpose, he believed the rapid manual dilatation of the os and the subsequent extraction of the child constituted the best method, but it should be remembered that unless complete dilatation of the internal os and paralysis of the cervix were obtained, there was great danger of rupturing the uterus, as well as of sacrificing the child by the closure of the cervix around the

armpits of the fetus during extraction. In cases in which immediate delivery was urgently demanded, and the internal ring of the os had been drawn up into the body of the uterus, and the external ring remained rigid, he would prefer to make four clean incisions extending from the edge of the os to the utero-vaginal junction. In addition, the bowels should be freely moved by croton-oil or calomel, followed by a saline, and by high enemata of a solution of magnesium sulphate. Diuresis should be excited by the application of cups and fomentations over the kidneys, and by the internal administration of glonoin or veratrum viride. Diaphoresis was best promoted by means of a hot-air bath. In this stage, pilocarpin was a most dangerous drug, tending to cause fatal pulmonary edema.

Much misapprehension has been caused, the speaker said, by the use of the term *accouchement forcé*. In its modern acceptation it was applied to the complete instrumental or manual dilatation of the cervical canal, followed by version or forceps, and the immediate extraction of the child. It does not mean the dragging of a fetus through a partially dilated os. As puerperal eclampsia was so much more common in primiparæ than in multiparæ, it often became necessary to resort to some method of preliminary dilatation of a rigid os before the more radical procedure could be attempted. This necessarily caused some delay, and during this time it would be found that the administration of veratrum viride would save many lives.

DR. E. P. DAVIS of Philadelphia said that he was becoming more and more convinced that the only really successful treatment of puerperal eclampsia was preventive—in other words the treatment of the preëclamptic state. The physician, in examining the urine of pregnant women, should determine the percentage of urinary solids as well as the albumen. Not infrequently the nervous symptoms—the mental depression, irritability, or headache—gave us the first hint of the impending danger. Here it would be found that a warm bath at night would not only give the needed rest, but would promote elimination. In the preëclamptic state there could be no doubt that it was the imperative duty of the physician to terminate the pregnancy if the eliminative treatment proved ineffectual. For the complete dilatation of the cervix he had found nothing better than the Barnes' bag. The control of the convulsion by chloroform was, of course, indicated. The emptying of the uterus by Cæsarean section would seem to be the ideal surgical method, but it should be remembered in considering the value of the child's life, and weighing its chances with those of the mother, that these children often lose their lives after birth from the same toxemia that has affected the mother. He had found atropin very useful at times for the control, not only of the convulsions, but also of the pulmonary edema.

DR. CHARLES JEWETT of Brooklyn said that he agreed with all that the last speaker had said about the significance of the nervous symptoms; nevertheless, he thought that in many instances these symptoms would not be brought to the notice of the medical attendant, and that, therefore, the attention of the latter should in all cases be largely concentrated on the condition of the urine as indicated not alone by the presence of albumen, but by the percentage of solids excreted. Where ordinary remedial and dietetic treatment failed to remove these symptoms and signs, the induction of labor was certainly justifiable. His inclination was to interfere too soon, rather than too late. He did not believe that in practice the period of viability could be placed much earlier than the ninth month. Chloroform was exceedingly useful in controlling the convulsions, but was dangerous if long continued. In addition to the rapid emptying of the uterus, he had depended mainly upon catharsis and diuresis, and the administration of veratrum viride. The latter he believed to be the most valuable of all the drugs used in puerperal eclampsia. Venesection was most useful, and, in his opinion, would gain more general recognition in the future. He had also found the injection of saline solution into the tissues and into the bowel an excellent means of favoring elimination. In the preventive, as well as in the curative treatment, he was in the habit of depending largely upon the free administration of water. He had found that an exclusive milk diet could not well be continued for more than two weeks at a time.

DR. EGBERT H. GRANDIN agreed heartily with Dr. Davis that puerperal eclampsia is a *preventable* disease; that is to say, if a pregnant woman has been for some time under the observation of her physician, she should not have eclampsia. We had been taught to watch too much for albuminuria, and too little for uremia. In a case of impending eclampsia, the rule should be rapidly to dilate the cervix with the hand and deliver. Any time after seven and one-half months of uterogestation, the hand alone could empty the uterus in less time than any drug could act, and the woman be thus placed out of danger. The procedure described and advocated by Dr. Edgar was not an *accouchement forcé*, for there was nothing forcible about it; it was simply the yielding of a muscle under pressure, just as in the familiar case of the dilatation of the sphincter ani. When time permitted, it was, of course, better to use a preliminary gauze-tamponade for six or eight hours, but where the symptoms were too urgent for this after seven and one-half months of uterogestation, rapid manual dilatation was the proper procedure. In his opinion, any one who, under these circumstances, could not dilate the cervix and empty the uterus within thirty minutes, in ninety-eight per cent. of the cases, did not know how to do it. Care should be taken to paralyze completely the lower uterine segment before attempting extraction. He always preferred chloroform, and gave it to the surgical degree. The dilatation should be performed finger by finger, until the whole fist could be introduced and the hand could be opened and shut. To secure proper elimination of the poison after delivery, he advised washing out the colon with sixteen or twenty gallons of hot salt water. He did not think Cæsarean section was called for when the lower uterine segment could be entered. He had only found it necessary to resort to deep cervical incisions in one case.

DR. W. T. LUSK said he regretted that there was at present a tendency among some modern obstetricians to

terminate pregnancy without what appeared to him sufficient reason. Calling a method the "surgical evacuation of the uterus" did not alter the fact that an abortion was performed. The existence of an insignificant quantity of albumen in the urine called rather for dietetic treatment than for radical surgical interference. If the daily quantity of urine were much below the normal daily average, in the absence of other urgent signs and symptoms, the indication was to put the patient on an exclusive diet of milk. In his opinion, the artificial evacuation of the pregnant uterus was not so simple and insignificant matter as many claimed. As every convulsion adds to the dangers of the mother, any method which would save her from even one or two convulsions was of benefit. He believed that he could secure nearly as rapid results from the Barnes' dilator as from almost any other method. It had been found that Duhrssen's deep cervical incisions were liable to be followed by serious hemorrhage.

DR. JAMES W. MCLANE said that the cases of puerperal eclampsia coming under his observation could be divided into two grades, *viz.*: (1) The more common variety in which there was a mild toxemia, associated with slight albuminuria, and but few nervous symptoms; and (2) a much more severe form—a sort of toxemic explosion of complex origin. The patients coming under the first variety he rarely treated medicinally, preferring to keep them on a milk diet, insisting on rest in bed for a part of each day, and the taking of a daily bath, with very moderate exercise. From what he had seen of the second class he could not agree with those who said that puerperal eclampsia is an entirely preventable disease. He had known of several cases in which notwithstanding frequent and careful examinations of the urine, an attack of eclampsia had occurred. If seen prior to the attack, when the pulse was full and bounding, and the patient complained of severe headache and dimness of vision, nothing could yield better results than a venesection of perhaps sixteen ounces of blood. He did not at all agree with those who believed that the child was damaged by the mother's condition, and, in support of this view, cited a case in which after twenty-seven convulsions the mother had given birth to a vigorous child. He had found that prompt rupture of the membranes often acted nearly as well as venesection in controlling convulsions. He had seen cases in which it had been utterly impossible for the strongest hand to dilate the cervix in thirty minutes except the uterus were ruptured. He would prefer a gentler method because of the probable disastrous effect on the impressionable nervous system of the eclamptic woman. After delivery he favored giving small quantities of chloroform by inhalation for some time, the patient being kept in a hot pack, then substituting morphia for the chloroform. He had not used veratrum viride because in most cases he had found the pulse small and feeble after two or three eclamptic attacks. A steady and excessive rise of the body-temperature was a very bad prognostic sign in puerperal eclampsia. As he had known pilocarpin to produce fatal edema of the lung in cases of puerperal eclampsia, he regarded its administration in this condition with horror.

DR. ROBERT A. MURRAY said that he had often been well pleased with the beneficial action of early rupture of the membranes in these cases. However, venesection should be considered the sheet-anchor of the obstetrician in dealing with these cases. A busy physician might easily neglect to examine the urine of the pregnant woman for urea, but he had no excuse for omitting to take the specific gravity, and so determining the quantity of urinary solids being excreted. He could corroborate everything that Dr. Grandin has said about the rapid manual emptying of the uterus, and its success, even in primiparæ. He did not see how any one could rupture the uterus during dilatation, although it might easily occur during the process of extraction. The process of manual dilatation could be substantially aided by venesection and the use of chloroform, and when the operator's hand became tired it could be withdrawn for a few minutes, and the uterus allowed to relax. One great advantage of the manual method was that it enabled the obstetrician to determine quickly the relative size of the fetus and the maternal pelvis, and so guided the operator in the choice of the method of delivery. A large proportion of the children born of mothers suffering from eclampsia died of uremia after birth, even when delivered normally.

DR. PHILANDER A. HARRIS of Paterson said that he had employed, with much satisfaction, a method of manual dilatation which he had devised, and the results certainly supported the position taken by Dr. Grandin.

DR. BERNARD E. GORDON said that he had also found that rapid delivery could be effected by the hand.

DR. EDGAR, in closing the discussion, said that he was grateful to Dr. Davis for referring to the train of nervous phenomena as symptoms of the preëclamptic condition, as these had been omitted from his paper. He had come to rely so much upon the physical signs that the nervous symptoms seemed of minor importance. Still, it must be admitted that in some instances these very nervous symptoms are the earliest clinical index of an approaching eclamptic seizure.

He had only found the hydrostatic bags of Barnes useful as preliminary measures, *i.e.*, to prepare the cervical ring for a more rapid and thorough subsequent dilatation. Cæsarean section as a means of rapid delivery in an eclamptic attack he would absolutely reject. Charpentier had shown, as had been pointed out in the paper, that the operation still carried with it a maternal mortality of 36.26 per cent. in eclampsia. Moreover, in the absence of pathological conditions of the cervix, he believed there was no cervix that could not be dilated, either by manual dilatation or incision, in sufficient time to meet every indication. He was in accord with Dr. Davis as to the value of atropia hypodermatically, not only for the edema of the posteclamptic state, but also for its antieclamptic action. The point which he wished to make the most prominent in the paper was that the only successful preventive treatment of puerperal eclampsia rested on the early recognition of the preëclamptic state, as shown in the early diagnosis of eliminative insufficiency.

He was quite in accord with Dr. Jewett's proposition, that it was far better for the patient suffering from eliminative insufficiency to have labor induced too early rather

than too late. Dr. Jewett was the only one who had referred to the stupefying action of chloroform. This he had only touched upon in the paper, and believed it should be given greater prominence. He was satisfied that the less anesthetics and narcotics the patient received the better. Not only chloroform, but morphin, chloral, and the bromids deepen the posteclamptic stupor and coma, and increase the tendency to death during the coma by reason of these drugs interfering with the eliminative processes. In certain maternities, chloroform had been abandoned, except where operative interference was demanded. He relied, as far as possible, upon veratrum viride, which not only controls the convulsive seizure, but promotes diaphoresis and diuresis. He considered the statement that after seven and a half months all cervices would yield, and allow of manual delivery within thirty minutes, dangerous teaching. It was just such statements that had led to the accidents referred to in the paper. Further clinical experience, he was sure, would cause the speaker to modify this statement. He agreed with Dr. Lusk that the daily amount of urea excreted was only one physical sign; but when considered in conjunction with other signs and symptoms, one could properly decide whether such operative interference as the induction of labor was demanded. The use of the Barnes' bag was an excellent preliminary measure, but to secure full dilatation, so that the fetus could be extracted with safety to both itself and mother, it was not to be compared, in his opinion, to the careful bimanual stretching and paralyzing of the cervical rings. Dr. Murray's statement that it was impossible to rupture the uterus during the performance of a manual dilatation was answered by the instances of partial and complete rupture of the uterus referred to in his paper. He was familiar with Dr. Harris' method of digital and one-handed dilatation of the os, and had given it a trial in hospital practice. Personally, he had found the bimanual method the most satisfactory, particularly for the reason that he could produce complete paralysis of the external ring of the os. This he could not do with Dr. Harris' method. He could not subscribe to Dr. McLane's practice of early rupture of the membranes as an efficient antieclamptic measure. It was true that the rupture of the membranes at this time apparently controlled the convulsions temporarily, but his experience had been that subsequently the presence of the fetus in the uterus, not surrounded by its cushion of liquor amnii, was a greater source of peripheral irritation than when the membranes were intact and the liquor amnii present. The worst instances of eclampsia seen in the emergency-cases of the maternity hospitals were those in which the membranes had ruptured early spontaneously, or had been artificially ruptured in the first stage. Moreover, the subsequent labor was prolonged, and the difficulties and dangers of operative interference enhanced by such a procedure.

It had been the experience of most observers that the high arterial tension does not always diminish or disappear after one or two eclamptic seizures. He had seen many cases in which the high tension had persisted for days, and even several weeks, and in which the continued use of glonoin and veratrum viride had been necessary to combat this symptom and prevent subsequent eclamptic attacks. While he objected strongly to the use of pilocarpin in the presence of an eclamptic attack, he believed it would be found a valuable adjunct in the treatment of the eliminative insufficiency of pregnancy—the preventive treatment of eclampsia.

That those eclamptic women do best in whom a rapid dilatation of the cervix and evacuation of the uterus is not performed, is the teaching of Charpentier of Paris; but, as the reports of the last Congress show, he stands almost alone in the world in this position. The speaker said that the greater his clinical experience with puerperal eclampsia, the more convinced he was of the truth of Duhrssen's statement that in ninety per cent. of eclamptic cases the danger was practically over when the uterus had been rapidly emptied early in the attack. He was firmly convinced that a careful study of the anatomy and physiology of the pregnant and parturient cervix would satisfy any unprejudiced observer, that the operation could not only be performed without any additional danger to mother or child, but that it was a life-saving procedure for both parties concerned.

Violation of the Postal Laws.—A Cincinnati physician was recently fined $100 and costs for sending a dunning postal card to a delinquent patient.

Honored by the Chinese Emperor.—Surgeon-Major Hueston of the British army, professor in the medical school at Tientsin, has been made a mandarin. He has also received the decoration of the Order of the Double Dragon from the Emperor of China.

Tuberculosis in French Colleges.—The Minister of Public Instruction in France, in a letter to the rectors of universities, directs that tuberculosis shall be added to the list of contagious diseases. He says that the interests of the patients themselves imperatively demand that they should not be under college discipline.

The Yucca-palm in Surgery.—In Los Angeles, Cal., a manufacturing plant is devoted to making splints and various similar surgical appliances from the wood of the yucca-palm obtained from the Mojave desert. When seasoned, the fiber is so tough, light, and hard that it has no rival for the above-mentioned purposes.

Effect of Antipyrin on the Kidneys.—Cardi and Tallini, from a series of experiments on animals, conclude that antipyrin has a direct constrictive effect upon the renal blood-vessels, and increases the general blood-pressure slightly and transiently. This is accompanied by a diminution in the renal secretions, which persists for some time.

Ozone and Tuberculosis.—Out of thirty-eight cases treated with ozone, Labbi and Indén report seven cured in the first degree, six in the second, sixteen markedly improved, and six died. There was a notable increase in the oxyhemoglobin, and in the numbers of the red blood-corpuscles. The inhalations were only given for fifteen minutes daily.

Ophthalmology.

Norris & Oliver's Ophthalmology.

A Text-Book of Ophthalmology. By WILLIAM F. NORRIS, M.D., Professor of Ophthalmology in the University of Pennsylvania and CHARLES A. OLIVER, M.D., Surgeon to Wills Eye Hospital, Philadelphia. Very handsome octavo, 641 pages, with 357 engravings and 5 colored plates. Cloth, $5.00; leather, $6.00.

We take pleasure in commending the "Text-book" to students and practitioners as a safe and admirable guide well qualified to furnish them, as the authors intended it should, with "a working knowledge of ophthalmology."—*Johns Hopkins Hospital Bulletin.*

The first text-book of diseases of the eye written by American authors for American colleges and students. Every method of ocular precision that can be of any clinical advantage to the every-day student and the scientific observer is offered to the reader. Rules and procedures are made so plain and so evident, that any student can easily understand and employ them. It is practical in its teachings. In treatment it can be accepted as from the voice and the pen of a respected and recognized authority. The illustrations far outnumber those of its contemporaries, whilst the high grade and unbiased opinions of the teachings serve to give it a rank superior to any would-be competitor. Wonderfully cheap in price, beautifully printed and exquisitely illustrated, the mechanical make-up of the book is all that can be desired. After a most conscientious and painstaking perusal of the work, we unreservedly endorse it as the best, the safest and the most comprehensive volume upon the subject that has ever been offered to the American medical public. We sincerely hope that it may find its way into the list of text-books of every English-speaking college of Medicine.—*Annals of Ophthalmology and Otology.*

De Schweinitz's Toxic Amblyopias.

The Toxic Amblyopias: Their Symptoms, Pathology and Treatment. By GEORGE E. DE SCHWEINITZ, M.D., Clinical Professor of Ophthalmology, Jefferson Medical College of Philadelphia. Very handsome octavo, 240 pages, 41 engravings and 9 full-page colored plates. Limited edition. De luxe binding, $4.00, *net.*

In this work the author has given us, in a small space, practically all that is known of the toxic amblyopias. The effects of some eighty-six different drugs upon the visual function are briefly but sufficiently described. No progressive practitioner of this branch of medical science can afford to dispense with this valuable addition to the literature of ophthalmology.—*The Journal of Ophthalmology, Otology and Laryngology.*

Impairment of vision due to poisoning by lead, tobacco, alcohol, and many other organic and inorganic agents characterizes a class of disease of wide prevalence and great importance. Every ophthalmologist will value this thorough and authoritative guide to the diagnosis and treatment of these serious and troublesome affections. The work is of almost equal value to the general practitioner and neurologist, in view of the fact that the visual disturbances are merely prominent symptoms of systemic conditions requiring constitutional treatment.—*The Medical Standard.*

Berry on the Eye.—Second Edition.

Diseases of the Eye. A Practical Treatise for Students of Ophthalmology. By GEORGE A BERRY, M.B., F.R.C.S., Ed., Ophthalmic Surgeon, Edinburgh, Royal Infirmary. Second edition. In one octavo volume of 750 pages, with 197 illustrations, mostly lithographic. Cloth, $8.00.

This is by far the best work upon its theme in the English language that we have seen, for the diction is pure and clear, and, besides, the beautiful illustrations of normal and diseased conditions make it a valuable addition to the library of all practitioners, general as well as special. We have never seen more real delineation of disease, the coloring is perfect, and each illustration is an "object lesson." We have had great pleasure in the perusal of this work, and great profit, and we consider it the best on the subject in the English language to-day.—*The American Journal of the Medical Sciences.*

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Teeth. Ear. Throat. Nose.

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